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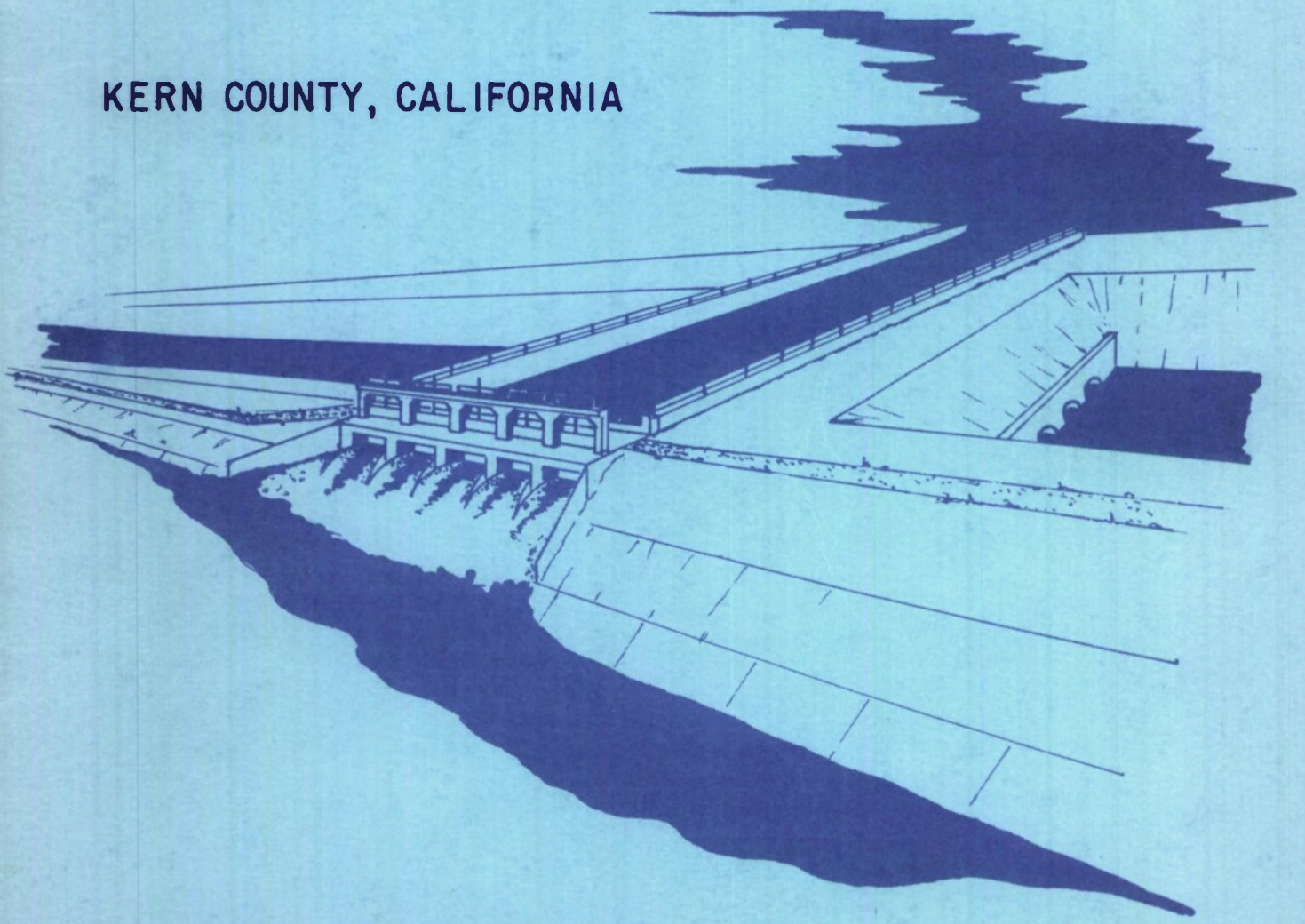
ENVIRONMENTAL STATEMENT

KERN RIVER-CALIFORNIA AQUEDUCT INTERTIE

KERN COUNTY, CALIFORNIA



SACRAMENTO DISTRICT, CORPS OF ENGINEERS
SACRAMENTO, CALIFORNIA

FEBRUARY 1974

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21 February 1974

STATEMENT OF FINDINGS

KERN RIVER-CALIFORNIA AQUEDUCT INTERTIE

1. As District Engineer of the Sacramento District, Corps of Engineers, I have reviewed and evaluated, in light of the overall public interest, the information presented in the Environmental Statement, other documents concerning the proposed Intertie, and the views of other agencies, organizations, and individuals on the environmental impacts and the various practicable alternatives to construction of the proposed project. My analysis was initiated with no preconceived opinion that construction of the project should proceed.

2. The possible consequences of constructing the proposed project, as well as the alternatives, have been studied and evaluated for engineering feasibility, environmental effects, social well-being, and economic factors, including regional and national development. Specific attention was given to fulfillment of the public's need for flood control and flood damage reduction while weighing environmental considerations accordingly.

3. Considerations. - In my review and evaluation, the following areas were considered pertinent.

a. Engineering considerations. - Alternative solutions for the Kern River flood problems in Tulare Lake were considered. Alternatives considered included additional upstream storage on Kern River, additional spreading areas and/or injection well fields along Kern River and alternative intertie plans. The alternative of no Federal action was also considered.

b. Economic considerations. - The proposed project would reduce flood damages in the Tulare Lake area. Flood damages alleviated would include crop losses and loss of crop production. The project would have relatively little effect on the socio-economic characteristics of the area. However, reduction of flood damages in Tulare Lake would tend to benefit the economic base of the area by increasing, to some degree, employment opportunities. Approximately 50 acres of land will be removed from current tax rolls.

c. Environmental considerations. - Construction of the intertie project would impact on the aesthetic, wildlife, and other human and natural environmental resources of the project area. Specific considerations and evaluations were made of the following:

(1) Effect of flood damage reduction on development and on environmental values including changes in land use.

(2) Plant communities and wildlife habitat.

(3) Environmental values of the natural stream and wildlife habitat within the project site that would be replaced by the sedimentation basin.

(4) Air, noise, and water pollution.

(5) Water quality in the California Aqueduct as related to planned use of the intertie.

d. Social well-being considerations. - The project will cause minor changes in the local social environment. Safety of crops and crop production from flooding will promote better health and improve living conditions by improving the standard of living of those employed in the Tulare Lake farming area.

4. Conclusions. - Based on my consideration, analysis, and evaluation of the various alternative courses of action for achieving the stated objectives, I find that an interdisciplinary approach has been used in preparation of the Environmental Statement; that consideration has been given to all practicable alternatives in sufficient depth that further investigations could not reasonably be expected to disclose new data significantly affecting the assessment of project environmental effects and overall merit; and that construction of the project would provide environmental and economic benefits. I note that full disclosure has been made of all studies to both proponents and opponents of the project and their views and assistance have been requested in making full disclosure of all areas that should be considered in arriving at a decision regarding construction of the project.

I have determined that construction of the project is consonant with national policy, statutes, and administrative directives; that construction of the project is supported by the State of California and is considered by the State to be in general conformance with its ultimate plan for development of water resources in California; that the Sacramento District has complied completely with both the letter and the spirit of the National Environmental Policy Act and all other environmental legislation so far enacted; and that where actions might have an adverse effect, such effects will be offset by appropriate mitigative actions.

Accordingly, I find that the Environmental Statement meets or exceeds the requirements of the National Environmental Policy Act and that the total public interest and general welfare will best be served by construction of the intertie project. I recommend the Environmental Statement be forwarded for review by higher authority and filed with the Council on Environmental Quality.

F. G. ROCKWELL, JR.
Colonel, CE
District Engineer

SUMMARY

KERN RIVER - CALIFORNIA AQUEDUCT INTERTIE

KERN COUNTY, CALIFORNIA

( ) Draft Environmental Statement (x) Final Environmental Statement

Responsible Office: U. S. Army Engineer District, Sacramento, California

1. Name of Action: (X) Administrative ( ) Legislative

2. Description of Action: Recommend authorization by the Chief of Engineers of a small flood control project consisting essentially of a concrete chute, gate structure and sedimentation basin in Kern County, California.

3. a. Environmental Impacts: Provide additional flood protection to agricultural land; divert snowmelt floodwaters away from area; incidental help to alleviate occurrence of disease affecting waterfowl in area.

b. Adverse Environmental Effects: No significant adverse effects on vegetation and wildlife.

4. Alternatives: Reservoir storage, water spreading, well injection, other stream diversion, and "no-action."

5. Comments Requested: (Comments were requested from those listed below)

Department of Interior	Soil Conservation Service
Environmental Protection Agency	State of California
Department of Commerce	Kern County Board of Supervisors
Department of Health, Education and Welfare	Kings County Board of Supervisors
	Tulare County Board of Supervisors
Federal Highway Administration	Kern County Council of Governments
Department of Agriculture	Kern County Water Agency
Public Health Service	Project Land Use

Citizens' Environmental Advisory Committee (includes representatives of Sierra Club, Audubon Society, American Association of University Women, League of Women Voters and American Socity of Landscape Architects)	Audubon Society - Western Regional Representative Sierra Club - Tehipite Chapter American Association of University Women League of Women Voters of California American Society of Landscape Architects, California Central Valley Chapter

6. Draft statement to CEQ 9 August 1973.

   Final statement to CEQ _____.

ENVIRONMENTAL STATEMENT
KERN RIVER - CALIFORNIA AQUEDUCT INTERTIE
KERN COUNTY, CALIFORNIA

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ENVIRONMENTAL STATEMENT

Kern River - California Aqueduct Intertie
Kern County, California

1. Project description. - The proposed project is located in the San Joaquin Valley portion of the Kern River Basin about 20 miles west of the City of Bakersfield in Kern County, California (see map - attachment 1). The proposed project consists essentially of a gated, gravity connection between the Kern River and the California Aqueduct for the purpose of disposing of damaging snowmelt floodflows from the Kern River. The Kern River flows on a southwesterly course past Bakersfield to a point near Buena Vista Lake and from there flows northerly through a flood channel to Tulare Lake. Under normal conditions, both Buena Vista and Tulare Lakes are dry and intensively cultivated. Portions of Buena Vista Lake are also used for temporary storage of irrigation water. Tulare Lake is the terminal basin for floodwaters from Kern, Kaweah, and Tule Rivers and also receives occasional floodwaters from Kings River. Isabella Lake is the most significant water resources development project within the Kern River Basin and is related to other water projects located on the Kings, Kaweah, and Tule Rivers in that they all act to minimize floodwater inflow to Tulare Lake. Although a relatively high degree of flood protection has been provided to the area below Isabella Dam, a flood problem still exists in Tulare Lake, particularly during years of exceptionally large snowmelt runoff when large releases from Isabella and the other water projects are necessary.

The California Aqueduct, a major feature of the State Water Project, imports municipal and industrial and irrigation water to the southern San Joaquin Valley and to Southern California. In the area where Kern River is diverted south to Buena Vista Lake and north toward Tulare Lake, the aqueduct is lower in elevation than Kern River and passes within several hundred feet of the river. These facts suggested the possibility of constructing a gravity connection from Kern River to the aqueduct to divert snowmelt floodflows away from productive agricultural lands in the Tulare Lake area.

The Tulare Lake Basin Water Storage District, Buena Vista Water Storage District, North Kern Water Storage District and the Hacienda Water District assert that they hold all of the water rights to the waters of the Kern River and that the only waters not being diverted and used are floodwaters against which they and other local interests seek protection. In order to achieve flood protection from Kern River, the above local interests together with the State of California and the Kern County Water Agency desire that such floodflows be diverted into the California Aqueduct through use of the intertie project.

During the years of very large snowmelt runoff, flows in the aqueduct would be gradually reduced and temporarily replaced with Kern River waters by means of the intertie. On such occasions, the flow introduced into the California Aqueduct would be largely utilized in the basin south of the Tehachapi Mountains in lieu of water which would otherwise have been diverted in the same amount from the Sacramento - San Joaquin Delta. Operation of the intertie would not affect operation of Isabella Lake nor would it affect normal divisions of flow or diversions from Kern River made by local interests, above the intertie site. Snowmelt waters would be diverted only when determined to be damaging by responsible local interests. Diversion of the snowmelt waters would serve as a safety valve to dispose of water, which on rare occasions, is in excess and a liability. Prior to actual diversion into the aqueduct, such floodwaters would be available for any beneficial use to which they might otherwise be put. It is expected that diversion of Kern River snowmelt floodflows through the intertie would occur, statistically speaking, once in 10 to 20 years, on the average.

Kern River snowmelt floods are characterized by moderate peak flows, but large volumes extending over a number of months. Snowmelt floods can be predicted with reasonable accuracy before high runoff rates begin, so reservoir, irrigation and spreading and the proposed intertie diversion operations can be planned in advance of floodflows. Rainfloods on Kern River are characterized by high peak flows and relatively small volumes. High flows during such floods usually last only a few days; however, large rainfloods originating downstream of Isabella Dam (occurring perhaps once in 50 to 100 years, on the average) may produce floodflows reaching Buena Vista Lake and the lower Kern River area. High turbidity of Kern River rain floodwaters would probably make them incompatible with water quality objectives for aqueduct water. In addition, because of the relative unpredictability of rain floods, water from such events probably could not be introduced into the aqueduct because of operational timing problems. Therefore, it is not contemplated that any rain floodwaters reaching the intertie site would be diverted into the California Aqueduct.

The proposed gated, gravity connection of Kern River to the California Aqueduct would be about 320 feet long; originating on the east side of the Buena Vista Outlet Canal, it would cross the canal on fill and join the aqueduct some 300 feet north of State Route 119. The rectangular reinforced concrete intake chute would be sized to carry a maximum flow of 3,500 cubic feet per second. A transition section would be constructed between the chute and the sedimentation basin just upstream. The intertie chute would be 68 feet wide with 12-foot high walls. The gated section would have a net width of 60 feet; outlet works would consist of 5 slide gates operated by a portable engine driven hoist. The exit transition section would be 100 feet wide at the intersection with the California Aqueduct; no special energy dissipator would be required at the exit.

In order to settle out bedload material prior to introduction of Kern River water into the California Aqueduct, a sediment basin of about 160 acre-foot capacity would be provided immediately upstream of the entrance to the intertie. Periodic removal of sediments from the basin would be required. Average annual sediment deposition is estimated at about 4,500 cubic yards (9); however, in most years no sediment would be deposited in the basin. Normally the stream flow is entirely depleted several miles above the intertie site. Accumulated sediment would be removed by land based equipment and spoiled along existing levees and in backwater areas near the intertie site. A log boom would be provided to prevent floating debris from entering the aqueduct. Flows in Buena Vista Outlet Canal would be carried beneath the intertie chute in reinforced concrete pipes; maximum flow capacity would be about 800 cubic feet per second. Approximately 50 acres of flood plain lands in Kern River channel would be required for construction of project works and waste areas.

Existing levees in the project area are sufficiently high for operation of the intertie at design capacity; there would be no additional levee construction. Channel capacity in Kern River upstream from the intertie site is adequate to deliver sufficient water to the project area for its intended operation. No channel enlargement or improvement is included in the proposed plan. However, continued maintenance by local interests of existing channel capacities from about the city of Bakersfield to Buena Vista and Tulare Lakes would be required. Maintenance might include limited channel clearing and snagging and levee repair, such as has been accomplished by local interests in the past. Riparian vegetation would be maintained in its existing state to the maximum extent possible. If during operation of the intertie some emergency forced closing off the intertie diversion, for instance upstream oil spill or pump outage in the aqueduct, flows would be diverted through Kern River Flood Channel and/or Buena Vista Inlet Canal.

The project is in the preauthorization, detailed project report stage. Initiation of detailed project studies was approved by the Office, Chief of Engineers, under the Small Flood Control Project program authorized by Section 205 of the 1948 Flood Control Act, as amended. The total estimated cost of the intertie project is about $1,758,000. Local interests are required under the present law to repay any Federal first cost, including preauthorization study cost, in excess of $1,000,000. The Federal first cost is currently estimated at $1,000,000 and the first cost to local interests is estimated at $758,000. Federal and non-Federal annual costs have been estimated to be about $55,200 and $61,800, respectively. An interest rate of 5-5/8 percent and 50-year economic life

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NOTE: Numbers which appear in parentheses refer to the numbered list of references cited in appendix A to this statement.

were used in computing annual costs and benefits. Average annual costs and benefits are estimated at $117,000 and $300,000, respectively. The project is estimated to have a benefit-cost ratio of about 2.6 to 1.0, making it an economically feasible project. (15)

2. Environmental setting without the project. - The Kern River Basin comprises about 2,100 square miles of watershed area above Isabella Dam, about 300 square miles of foothill area below Isabella, and about 600 square miles of alluvial fan area below the mouth of Kern River Canyon. Buena Vista and Tulare Lakebeds are also located in the basin. Agriculture is the primary industry of the basin and a substantial portion of the work forces of Kings, Tulare and Kern Counties is employed in farm work, processing agricultural products, and agricultural services. (8, 12, 16) The lower Kern River Basin is traversed by State Highway 99, Interstate Highway 5, and numerous other State highways. Local interests have constructed a complex system of conveyance channels and related facilities in the basin for utilization of Kern River water for irrigation purposes. The Bureau of Reclamation's Friant-Kern Canal, terminating at Kern River near Bakersfield, imports irrigation water. Also, the California Aqueduct traverses the basin.

The channel of Kern River is confined between continuous levees through the urban area of Bakersfield and by low, natural banks or low, discontinuous levees below that area. The channel has a sandy, shifting bottom and is crossed at intervals by permanent diversion weirs which turn water into several large irrigation canals. As a result of these various diversions and regulation by Isabella Lake, the natural river-flow is extensively modified and is entirely depleted before reaching Tulare Lake in all but exceptionally large runoff years. In many years little water flows beyond the "Second Point of Measurement" (see attachment 1) above Buena Vista Lake. The major portion of Kern River flow originates as snowmelt and the water is of excellent chemical quality, even in the lower stream reaches. The Kern River channel and other channels and canals between Bakersfield and Buena Vista and Tulare Lakes have been maintained in the past. Work has included channel clearing and snagging and levee repair.

Most of the useable ground water in the Kern River Basin occurs in the valley area (6). Ground water pumped from the basin, in conjunction with surface water, supplies irrigation, domestic, and municipal and industrial water needs of the basin. As a result of pumping, an overdraft condition exists in much of the basin. Yields of existing wells along the western edge of the Kern River Basin are for the most part low, and the quality of ground water poor.

The intertie site is located between two oilfields (North and South Coles Levee Oilfields), the California Aqueduct and Buena Vista Outlet Canal, and State Highway 119, in Kern County. There are two existing control weirs in the project area: at the head of Kern River Flood Channel and at the head of Buena Vista Inlet Canal. Low-lying levees nearly encompass the site and extend upstream along both sides of the Kern River. Attachment 2 is a vertical aerial photograph of the project site and attachment 3 shows several views of the project area.

Tulare Lake is a broad, flat, leveed depression about 400 square miles in area; approximately 95 percent of the lakebed is in Kings County and about 5 percent in Tulare County. Since the soils are highly suited for agricultural use, the lakebed area has been extensively reclaimed by a cellular dike system and has over 250,000 acres under crop during most years. U. S. Soil Conservation Service soil maps indicate soils in the lakebed are primarily the Tulare association (about 55 percent of the area) in the basin and the Hilmar - Mocho association (about 45 percent of the area) on the basin rim. The Tulare association is a moderately alkaline, highly calcareous silty clay with somewhat poor natural drainage, very slow subsoil permeability and high inherent fertility. The Hilmar - Mocho association includes mildly to moderately alkaline loamy sands and sandy loams with somewhat poor natural drainage, moderately rapid to rapid subsoil permeability and low to moderate inherent fertility. The U. S. Soil Conservation Service soil classification for Tulare Lake indicates nearly 100 percent is Group 3 soil. Land in Group 3 is dominated by coarse to fine textured saline-alkali soils with water tables that are generally less than 6 feet below the surface. Field crops which generally make up the agricultural activities on the soil require careful management since the soil exhibits slow to very slow soil infiltration rates and high soil salinity. Industrial uses on this type soil are severly limited; it displays severe shrink-swell behavior, severe septic tank limitations due to the high water table, severe corrosivity to untreated steel pipe, and moderate soil pressure limitations.

Tulare Lake has only minor utility development and is essentially uninhabited. In the Tulare Lake Basin Water Storage District, which includes nearly 190,000 acres in the Tulare Lake area, according to the district there are over 300 property ownerships. These ownerships range from areas of less than 20 acres to over 10,000 acres; 17 major operators farm nearly 98 percent of the area within the district. Farming in the lakebed has traditionally been somewhat of a gamble due to its history of widespread flooding. However, the flood control provided by upstream reservoirs as well as the increased use of water on tributary streams have led to intensive, diversified cropping in this lakebed area; major crops include cotton, barley, hay and safflower. Since Tulare Lake is subject to flooding even with the proposed project, the area is expected to remain essentially uninhabited. Kings and Tulare Counties' general plans

indicate over 90 percent of Tulare Lake is included in agricultural preserves under the California Land Conservation Act of 1965. (12, 16) The act provides for the execution of contracts between land owners and counties for the purpose of placing land into restricted open space use, agricultural preserves. The owner agrees to restrict use of his land to agricultural or other open space uses and in return the county agrees to assess the land for taxation purposes on an income basis rather than a market value basis.

Since completion of Isabella Lake in 1953 by the Corps of Engineers, the major flood on Kern River damaging the Tulare Lake area was the 1969 snowmelt flood. About 300,000 acre-feet of Kern River snowmelt floodwaters entered the lakebed and the lake contained a total of over 1,100,000 acre-feet of water from Kings, Kaweah, Tule, and Kern Rivers and several smaller streams. Approximately 88,000 acres were flooded, including 73,000 acres flooded during the January-February rain floods. The Kings, Kaweah and Tule Rivers were the main contributors of rain floodflows. Total flood damage in Tulare Lake in 1969 was estimated at $27,400,000, of which $16,300,000 was estimated to be due to snowmelt runoff. (13, 14) Although the 1969 snowmelt flood was more damaging, on an acreage-flooded basis, than the 1969 rainflood, the introduction of snowmelt waters into Tulare Lake bed after the rainfloods occur tend to prolong the effects of flooding and sustains the period of non-crop production. Thus, damages are more appropriately based on volume of water entering the lake rather than area flooded.

In 1966 the Corps of Engineers completed an analysis of the feasibility of enlarging Isabella Lake, primarily in the interest of recreation. Although such enlargement was found to be economically justified, the required assurances of local cooperation were not obtained, and completion of the study was deferred. Interest in the plan was renewed in 1972 due to low water level in Isabella Lake during the 1972 recreation season, and local interests expressed their intent to provide the required assurances. Studies were initiated to update the plan, although at the present time adequate assurances have not been provided to continue planning on this possible enlargement plan for Isabella Lake. The practical limit of Isabella Lake enlargement is about 100,000 acre-feet. It is possible that this increased capacity could be used for flood control rather than recreation; however, development, for this purpose only, would probably not be economically justified.

Pursuant to Congressional resolutions, the Corps of Engineers recently investigated the feasibility of providing additional flood control and related water resources developments on the Kings, Kaweah and Tule Rivers. The studies indicated Federal development was not economically feasible at this time; however, it is possible that additional work on these streams may be undertaken in the future which would provide additional flood control and other improvements affecting the Tulare Lake area. Such plans of improvement would necessarily have to be formulated with the operation of the intertie taken into consideration. Vegetation in the general project area is primarily the valley

mesquite habitat type. This type is dominated by honey mesquite, with some saltbrush, winter fat and grasses. It is confined to southwestern Kern County, where the climate is arid with near desert conditions. In 1965 the California Department of Fish and Game estimated that about 47,000 acres of this habitat type remained in the area. They estimated that by 1980 the valley mesquite habitat would no longer exist, having been displaced by agricultural development resulting from delivery of water to the area from the California Aqueduct. (1) Riparian habitat, consisting primarily of willow, Fremont cottonwood, honey mesquite, saltbrush and grasses, exists sparsely along the waterways. Flooding such as shown on attachment 2 is a rare occurrence and has not significantly altered vegetative types. In many years little water flows beyond the "Second Point of Measurement" (see attachment 1). The main Kern River channel bottom is sandy and generally devoid of vegetation.

The valley mesquite area supports populations of doves, California quail, jackrabbits, and cottontail rabbits. The mesquite and riparian habitat also provide suitable living conditions for other small mammals and birds. Two rare species exist in the area: The San Joaquin kit fox and the blunt nosed leopard lizard. The habitat of both has been invaded by agricultural development on the valley floor, nearly eliminating these species. Recent studies by the U.S. Bureau of Sport Fisheries and Wildlife indicate the nearest active San Joaquin kit fox dens are approximately 3 miles from the intertie site, near Tupman. The habitat of both has been invaded by agricultural development on the valley floor, nearly eliminating these species. (1) Southwestern Kern County is also within the regular feeding range of remaining condors in the State. A State Tule Elk Reserve is located at Tupman about 5 miles northwest of the intertie site; approximately 30 to 35 head of Tule Elk are maintained in the reserve. No fishery exists in lower Kern River due to the intermittent flow. A warm water fishery does exist in the California Aqueduct; fishing access is provided at two sites between the intertie site and Tulare Lake and another fishing access to the aqueduct is located southwest of Buena Lake.

The lower Kern River area between Buena Vista and Tulare Lakes provides important wildlife habitat for waterfowl; the Kern National Wildlife Refuge is located just south of Tulare Lake and many duck clubs utilize seasonal marsh type lands (flooded agricultural lands) in the lower river area for hunting. Depending upon the amount of water and food available, important waterfowl use occurs during fall and spring movements and winter residence. The California Department of Fish and Game has estimated hunting season densities of over 100 per 100 acres. (4) However, at any time large areas in the lower basin are subjected to extensive shallow flooding, such as during a large snowmelt flood, severe outbreaks of botulism affecting waterfowl are likely to occur. Ducks are the primary waterfowl killed. (2) Severe outbreaks have occurred many times in the past, the latest being in 1969. The California Department of Fish and Game has estimated waterfowl loss in 1969 at over 140,000 birds. (3)

The Kern County Parks and Recreation Plan adopted by the Kern County Planning Commission in 1966 designates the area on both sides of Kern River as the "Kern River Parkway." (8) The parkway extends from east of Bakersfield to the California Aqueduct, then north along the flood channel to the State Tule Elk Reserve and south along Buena Vista Inlet Canal to Buena Vista Lake. The general intent of the plan is that land in the river bottom is to be preserved for recreation, agriculture and other compatible uses. The land designated in the parkway west of Bakersfield has not been developed for recreation with the exception of the County's Buena Vista Aquatic Recreation Area, located approximately 3 miles south of the intertie site and adjacent to the California Aqueduct. The recreation facility, which will comprise nearly 1,500 acres of water and land surface area, was completed in 1973. Some recreation facilities are also available at a State Park located on the Tule Elk Reserve.

Past studies and finds indicates an important archeological region lies at the southern or upper end of the San Joaquin Valley and that Buena Vista Lake is the core of the area. At the beginning of historic times, the Buena Vista Lake area together with the lower Kern River was occupied by several Yokuts Indian tribes and a number of historic villages are known (17). The Indians first came in contact with Whites in 1772 when a Spanish expedition entered the area.

Archeological research in the Buena Vista Lake region began in 1899 and has continued intermittently since that time. The latest field studies were conducted in 1963-1965 by the State in connection with plans for construction of the California Aqueduct and in 1969-1970 by William J. Wallace (at the request of the National Park Service) for the Buttonwillow Watershed Management Project. (10) Both investigations involved cursory inspections through the intertie project area with detailed investigations of known archeological sites around Buena Vista Lake. No sites have been identified in the intertie project area.

As noted previously, the intertie site lies essentially within the Kern River channel and backwater areas and is nearly encompassed by low-lying levees. The project area has been extensively disturbed by past construction activities involving the levees, Highway 119, the Buttonwillow Project, and the California Aqueduct, as well as sediment deposition, channel maintenance and oil well field activities. It is probable that evidence of potential prehistoric sites would have been destroyed by these activities. However, the National Park Service has noted that it is not clear from Mr. Wallace's survey report whether the intertie project area was surveyed, but that his survey does indicate a high potential for prehistoric resources in the general area. The report also states that great expanses of the Buttonwillow Project area, which includes the intertie project area, contained virtually no archeological remains. Such lands included permanent wet lands, certain

stretches of flat land fronting Buena Vista Lake, and the dry, sagebrush country back from the lake.

The California Department of Parks and Recreation has indicated that in their review of the intertie project they found no National Register sites which would be affected by the project. (11) Review of the California "Historical Landmarks" identified no historical resources in the project area (5). The National Park Service has indicated that their archeological survey of the project area will be completed by about April 1974. If any archaeological, historical or paleontological sites are discovered during construction of the project, the National Park Service and the Director of the Kern County Museum will be so advised.

3. Environmental impact of the project. - The environmental impact is discussed in three parts.

a. Changes or conversions of environmental resources.

(1) The proposed project would provide additional flood protection to the Tulare Lake area from Kern River snowmelt floodwaters. Because of an agreement between the owners of Buena Vista Lake and the Buena Vista Water Storage District regarding storage in the lake, it is considered that the project would not benefit Buena Vista Lake. Of floodwater ponding in Tulare Lake from all sources, some 50 percent evaporates and the remainder is used for irrigation. Operation of the intertie would preclude the use of such ponded Kern River snowmelt floodwater for irrigation purposes. Lands irrigated with this water are usually lower quality lands on the perimeter of the lakebed area which under normal conditions would not be irrigated, and the net income from crops on these lands is generally considerably lower than from other lands in the lakebed area.

(2) Under anticipated future conditions, it is expected the intertie would divert an average annual equivalent amount of about 15,000 acre-feet of Kern River snowmelt floodwaters into the California Aqueduct. This water would be delivered to the southern San Joaquin Valley and Southern California and represents about 2 percent of the average annual runoff (about 725,000 acre-feet) of Kern River.

(3) Approximately 50 acres of flood plain lands in Kern River channel would be required for construction of project works and waste areas.

b. Beneficial and detrimental aspects of the environmental changes.

(1) Provision of additional flood protection to Tulare Lake from Kern River snowmelt floodflows would result in annual benefits currently estimated to average about $300,000. The benefits consist

solely of flood damage reduction and were evaluated as the difference in flood damages with and without the intertie project. Flood damages alleviated would include crop losses and loss of crop production as a result of land remaining flooded. Additional flood damages which would be reduced include damages to roads, levees, other property improvements and operating equipment, and cost of flood fighting. No land enhancement, due to change to higher land use, is anticipated as a result of the proposed project. The project is not considered to provide any flood protection to Buena Vista Lake.

(2) Benefits that might accrue from using ponded snowmelt floodwaters (which are to be diverted) would be foregone. However, the irrigation value of any water to be diverted through the intertie was netted out in the economic evaluation of providing flood control to Tulare Lake. Furthermore, local interests asserting they hold all of the water rights to the waters of Kern River state that they and other local interests desire protection from such snowmelt floodwaters.

(3) The intertie structure would extend little above existing canal embankments in the project area and would have minor visual impact as seen from Highway 119. No channel enlargement or improvement is included in the proposed project. However, maintenance of existing channel capacities of Kern River to Buena Vista and Tulare Lakes would be required. Clearing in the project area required for construction would consist primarily of debris removal from the river channel. Approximately 460,000 cubic yards of material would be excavated from the channel in constructing the sedimentation basin. Sediments would be spoiled along existing levees just north of State Highway 119, northeast of the sedimentation basin; and in other backwater basin areas within the 50 acres of the project area. Sediments removed from the basin during maintenance operations would also be spoiled in these areas. Placement of these sediments will have an impact on wildlife habitat; however, proper selection of the disposal areas will hold such effects to a minimum. Mitigation measures for the disposal areas are discussed in paragraph 3c.

(4) Diversion of Kern River snowmelt floodflows into the California Aqueduct will have little effect on ground water recharge in the lower Kern River area. Channel losses in the Kern River Flood Channel are low and for the most part ponded waters evaporate, are used for irrigation, or are absorbed or perched by upper soil layers.

(5) Although diversion of snowmelt floodwaters into the California Aqueduct might reduce pumping costs for delivery of water to the southern San Joaquin Valley and Southern California, any such savings would be offset by additional aqueduct operation and maintenance costs associated with operation of the intertie. Considerable coordination

would be necessary between the Corps of Engineers, the State of California, and local interests to effect the transfer of floodwaters. However, the project would provide improved management of water resources.

(6) Removal of snowmelt floodwater from the Kern River system will have the effect of reducing, in high snowmelt years, some acreage of waterfowl habitat that has historically been created by such floodflows. However, this loss will tend to be offset by the resultant reduction of waterfowl botulism, since shallow flooding is conducive to this condition. Diversion of Kern River snowmelt floodwaters out of the basin, once in 10 to 20 years on the average, is expected to have little effect on other animal and plant life in the area. The project will not significantly affect rare or endangered species in the general project area.

(7) The project would not affect the remaining valley mesquite habitat. Valley mesquite is adapted to the arid climate with near desert conditions in southwestern Kern County and is not dependent on infrequent snowmelt flooding for sustenance. Agricultural development displacing this habitat would occur with or without the intertie project, being primarily dependent on the availability of irrigation water.

(8) The project should have no effect on historical or archeological resources. The region is rich in aboriginal remains; however, there are no known significant archeological or historical resources in the project area.

(9) The project would have a relatively small effect on the social and socio-economic characteristics of the area. However, the reduction in flooding in Tulare Lake would tend to benefit the economic base of the community by increasing to some degree employment opportunities in connection with the crops grown and by increasing the net income to the area. The well-being of the farm workers and service industries would be increased by the stabilizing influence of more uniform crop production.

c. Remedial, protective, and mitigative measures of the project. - There does not appear to be any significant environmental loss that would result from construction of the project. Construction of the project would disturb little natural vegetation; most of the project would be within the Kern River channel. The main Kern River channel bottom is generally devoid of vegetation. Waste areas would be located along existing levees. The waste areas will be shaped to conform with the surrounding terrain. Seeding of the waste area and revegetation of disturbed areas will be accomplished under a planting program designed to include planting of native vegetation and other plant species that are advantageous to existing wildlife as well as beneficial to the reduction of erosion. Riparian vegetation would be maintained in its

existing state to the maximum extent possible in accomplishing any channel maintenance; however, maintenance would generally be performed along the channel bottom. The intertie itself would be a low-lying structure extending little above existing canal embankments.

4. Adverse environmental effects which cannot be avoided should the project be implemented. - The change in use of land on which the project is constructed cannot be avoided. About 50 acres in the flood plain of the Kern River channel is required for the intertie chute, sedimentation basin, and waste areas. However, the sedimentation basin and waste areas (both lying within the Kern River channel) would not be fenced and would essentially maintain their present use. The flood plain lands needed for the project have no present economic use. The lands are generally incapable of crop production and subject to flooding; their economic value is based primarily on any mineral rights they may have.

5. Alternatives. - In addition to the proposed plan of improvement, several alternative plans have been studied for alleviating Kern River flood problems in Tulare Lake; other plans studied include the following.

a. Development of additional upstream storage for flood control could be accomplished most economically by enlarging Isabella Lake. The practical limit of such enlargement would be about 100,000 acre-feet. In1966 the Sacramento District prepared a Draft Review Report on the Kern River Basin which contained a feasible plan for the enlargement of Isabella Dam to increase the recreation pool from 30,000 acre-feet to 110,000 acre-feet and the gross pool from 570,000 acre-feet to 670,000 acre-feet. Of the 100,000 acre-foot total increase in storage, 20,000 acre-feet was an increase in active flood control space. The added flood control storage compensated for loss of useable surcharge storage of the existing project and would result in no change in present average annual flood control accomplishments of Isabella Lake. The environmental effects of such an enlargement for recreation purposes were also considered since Isabella Lake supports one of the most important warm water fisheries in California and the lake is outstanding in both fish production and angler use. However, local interests failed to provide assurances of local cooperation for this plan, and completion of the report was deferred. In 1972 local interests expressed their intent to provide the required assurances. Studies were initiated to update the plan, although at the present time adequate assurances have not been provided to continue planning on this possible enlargement plan of Isabella Lake. Enlargement of Isabella Lake to 670,000 acre-feet to provide 100,000 acre-feet of additional flood control storage would not provide as high a degree of snowmelt flood protection to Tulare Lake as would the intertie project. Such a project also would not control rain floods originating below Isabella Lake. The enlarged lake would provide a slightly increased average pool, tending to enhance the recreation opportunity. Only a few

additional acres of land would be required and there would be little increase in overall size of the existing project. However, periodic inundation of existing wildlife lands would occur, resulting in adverse effects on wildlife inhabiting project lands such as raccoons, oppossums, bobcats, coyotes, badgers, grey foxes and a variety of game and non-game birds. Kern River floodwaters would remain in the basin, and some portion could be beneficially used for irrigation and ground water recharge as floodwaters were released from the reservoir. The project would not affect natural vegetation or wildlife in the Kern River Intertie area. Although such a project for flood control might be feasible, it is estimated to cost about three times as much as the intertie diversion and as already mentioned would provide a lower degree of flood protection to Tulare Lake.

b. Additional spreading areas and/or injection well fields along Kern River might also be economically feasible. However, acquiring large agricultural acreage and other lands along the river for spreading areas to protect other agricultural lands in Tulare Lake appears impractical, economically and environmentally. The lands required for spreading areas would result in disruption of agricultural activities, destruction of important natural vegetation (including valley mesquite habitat) which wildlife are dependent upon for food and shelter, resulting in potential adverse effects. It is possible that land spreading areas could increase the problem of botulism affecting waterfowl in the lower Kern River area. Although injection well fields would require less land, operation and maintenance of the wells would require roads, power lines and pipelines, affecting agricultural activities, natural vegetation and wildlife. Kern River floodwaters would remain in the basin and some portion could be beneficially used for irrigation. The cost of additional spreading areas or injection well fields providing flood protection comparable to an intertie diversion is estimated to be several times as much as the intertie cost.

c. Alternative intertie plans. - During detailed studies, alternative plans to divert floodwaters out of the basin via an intertie of Kern River to the California Aqueduct were also investigated, including a broad-crested weir and a pumping plant. These studies indicated a gated chute was the best design for an intertie. The broad-crested weir alternative was found to be incompatible with aqueduct operation and was unacceptable to the State. The pumping plant was determined to cost some three to four times as much as the proposed plan. These plans would have essentially the same environmental impacts as the proposed plan.

d. No action. - If no project is accomplished, the environmental setting would probably remain much as described previously in section 2. Flood damages in Tulare Lake would increase, as the economic growth

from increasing agricultural production could still be expected to occur. There would be no disruption of the natural or human environment associated with construction of a project.

6. Short-term uses versus long-term productivity. - This project would provide a high degree of protection to Tulare Lake from Kern River snowmelt floodwaters. Average annual flood control benefits estimated at about $300,000 would accrue to the project. Due to the high degree of present agricultural development and the fact that Tulare Lake is still subject to flooding (from Kings, Kaweah, and Tule Rivers and several smaller streams) even with the project, little future economic growth is expected to occur as a result of construction of this project, and Tulare Lake is expected to remain essentially uninhabited. Operation of the proposed project might benefit waterfowl resources by reducing the occurrence of botulism.

7. Irreversible and irretrievable commitment of resources. - No change in land use in Tulare Lake is expected to occur as a result of the project. There is no part of the project area where environmental losses would be significant. Other than costs for construction of the intertie structure itself, the project involves no irretrievable or irreversible commitments of resources.

8. Coordination with others. -

a. Public participation. An environmental working paper was informally coordinated with most of the government agencies and citizen groups listed below during December 1971 and January and February 1972. A public meeting was held on 4 May 1972 to present basic features of the proposed plan of improvement and the anticipated impacts of the plan. Letters have been written to the Department of the Interior (Arizona Archeological Center - National Park Service), requesting advice on the need for an updated survey of archeological and historical resources, and to the State Historic Preservation Officer, requesting information on any known sites of historical, archeological, architectural or of similar cultural significance that should be recognized in connection with the study area. This information is included in this statement. Details of the proposed project and the draft environmental statement were circulated for formal review to appropriate government agencies and citizen groups in July 1973. Formal comments on the draft statement are contained in Appendix C. Copies of the final environmental statement will be available to the public after it has been filed with the President's Council on Environmental Quality; the District Engineer will furnish copies to agencies and groups with whom the draft statement was coordinated.

b. Government agencies. The draft environmental statement was coordinated with the following agencies.

(1) Federal:

Department of Commerce
Department of Interior
Department of Health, Education and Welfare
Department of Agriculture
Environmental Protection Agency
Federal Highway Administration

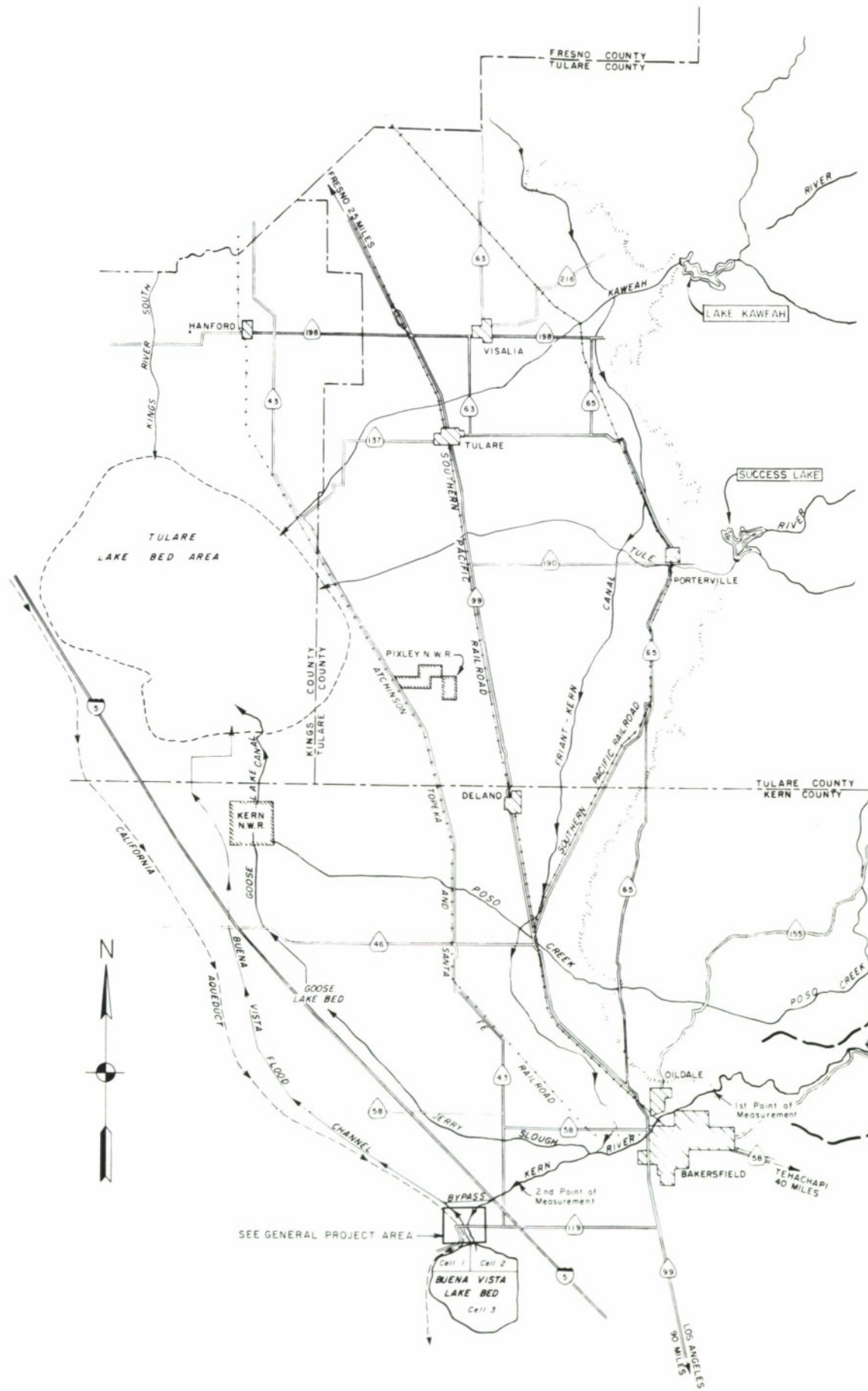
(2) State of California

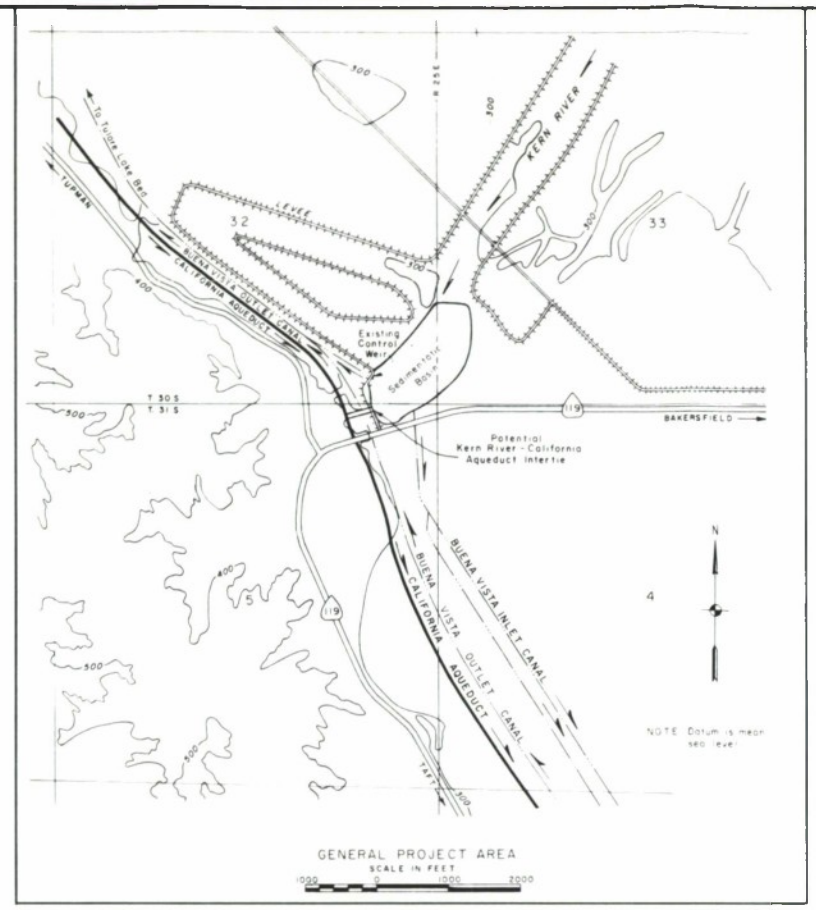
(3) County:

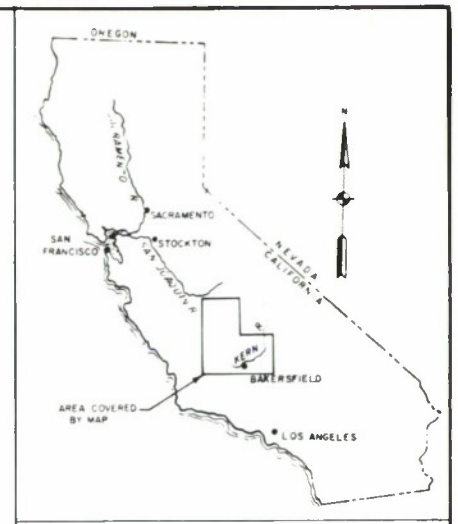
Kern County Board of Supervisors
Kings County Board of Supervisors
Tulare County Board of Supervisors
Kern County Council of Governments
Kern County Water Agency

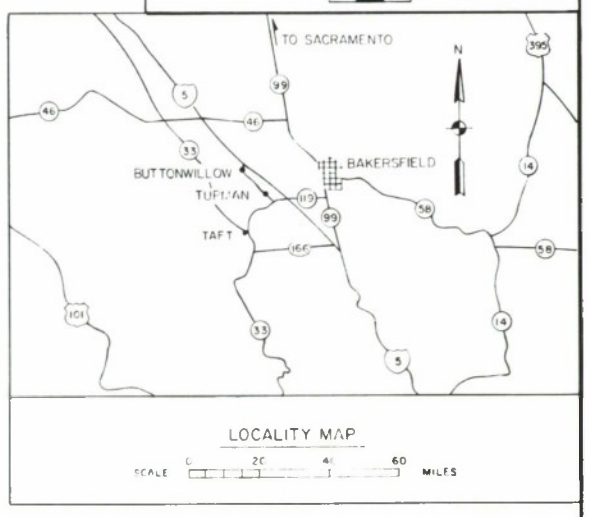
c. Citizen groups:

Citizens' Environmental Advisory Committee
Audubon Society - Western Regional Representative
Sierra Club - Tehipite Chapter
Project Land Use
American Association of University Women
League of Women Voters of California
American Society of Landscape Architects,
California Central Valley Chapter









LEGEND

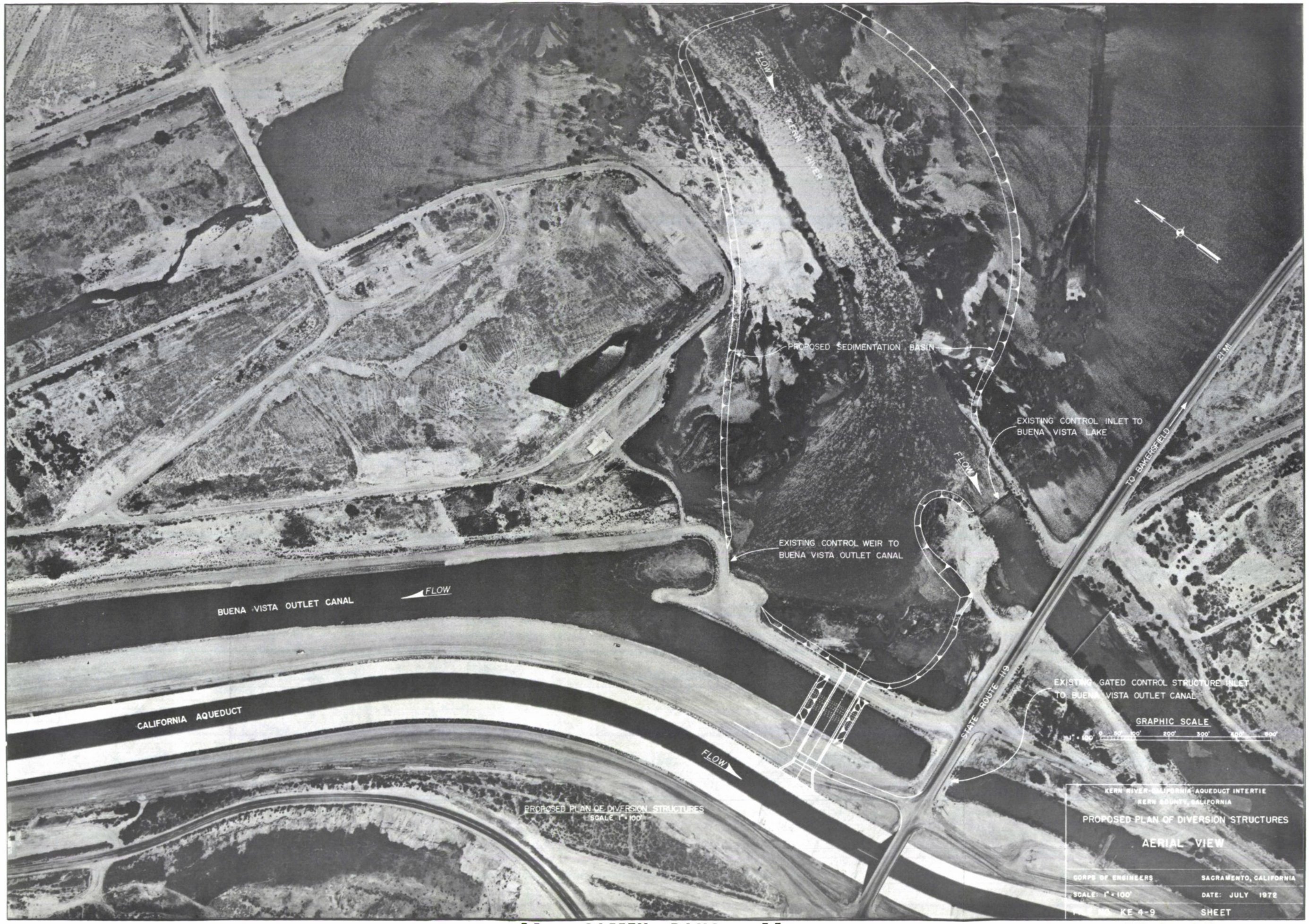
- Road, Interstate Highway, State Highway
- Railroad
- County Boundary
- Drainage Basin Boundary
- National Wildlife Refuge
- Base of Foothills
- Existing Reservoir

KERN RIVER-CALIFORNIA AQUEDUCT INTERTIE
KERN COUNTY, CALIFORNIA

GENERAL MAP

CORPS OF ENGINEERS,	SACRAMENTO, CALIFORNIA
SCALE: AS SHOWN	DATE: JULY 1972
FILE NO. KE 4-9	SHEET

ATTACH 1



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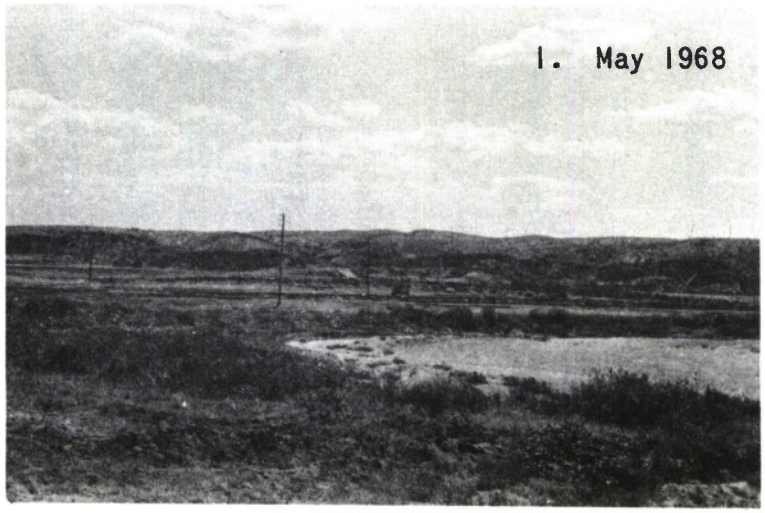
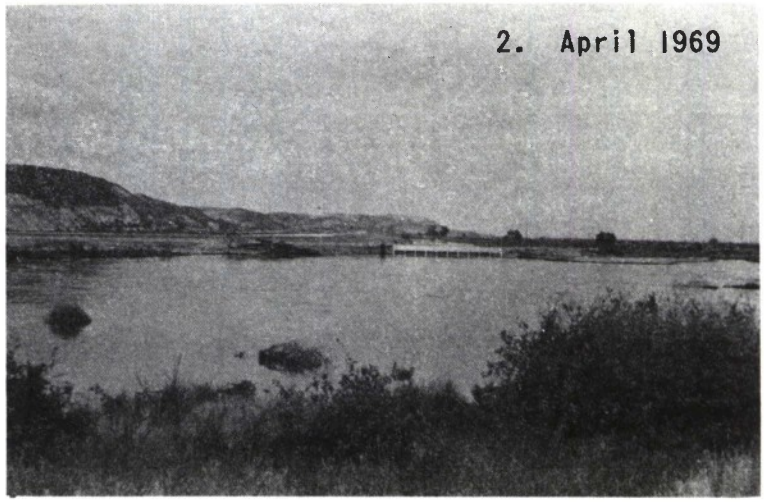
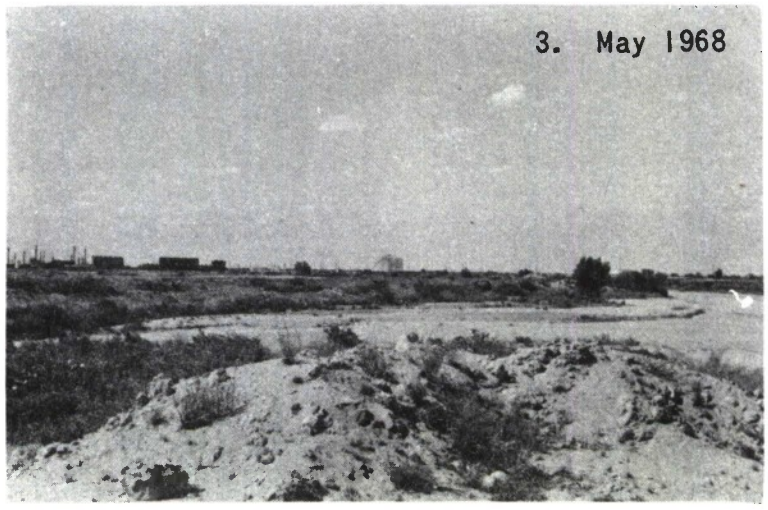


LOOKING WEST ACROSS INTERTIE SITE



LOOKING NORTHWEST TOWARD EXISTING CONTROL WEIR



LOOKING NORTHEAST UP THE KERN RIVER CHANNEL

APPENDIX A

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3. Department of Fish and Game, State of California, "Waterfowl Botulism in California - 1969," 1970.

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5. Department of Parks and Recreation, State of California, "California Historical Landmarks," 1969.

6. Ground Water Branch, U. S. Geological Survey, "Ground-Water Conditions and Storage in the San Joaquin Valley, California," 1957, open-file report.

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11. National Park Service, "The National Register of Historic Places - 1969," 1969.

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APPENDIX B

COMMENTS AND RESPONSES

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APPENDIX B

COMMENTS AND RESPONSES

1. UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

(1) Comment: There is not a clear rendering of the secondary impacts of supplying an average annual equivalent of 15,000 acre-feet of water for flow augmentation to the California Aqueduct. This rendering should not only refer to existing and potential downstream users, but also should refer to upstream users as well who would benefit if normal project deliveries to the service area downstream of the proposed intertie were surplus. There is a need to resolve who will be the recipients of such flow augmentation benefits since it could potentially encompass management decisions affecting the Sacramento-San Joaquin Delta.

Response: Although it is estimated that an average annual equivalent of 15,000 acre-feet of Kern River water would be diverted into the California Aqueduct, this water comprises diversions from floodflows in Kern River less frequent than once in 10-20 years on the average, and would be done during flood years when there would probably be excess water available in the Delta. This cannot be considered as flow augmentation. Although water diverted through the intertie into the California Aqueduct would be transported for use in the southern San Joaquin Valley and Southern California, the State has pointed out that, because of increased operating costs, there would be no net benefit to the state other than the flood control benefits claimed. The proposed project will have little, if any, effect on management decisions affecting the Sacramento-San Joaquin Delta.

(2) Comment: There is a need to define the context within which this proposed project fits as far as the overall program of "additional flood control and other improvements affecting the Tulare Lake area" alluded to on page 11 of the draft statement.

Response: The referenced section of the statement has been revised to clarify this point.

(3) Comment: More specifically delineate the mineral and chemical makeup of sediments and their subsequent impact on water detained in the sedimentation basin. In addition, locate the preferable spoils depositions areas on a map within the project area.

Response: The mineral and chemical composition of the sediments detained in the sedimentation basin will be no different than those contained in natural basins or pools upstream of the project site

and, therefore, their subsequent impact will be the same. The limits of potential spoil areas are discussed in paragraph 3b(3) of the EIS, and deposition at any specific sites within these limits would have generally similar environmental effects. The specific sites would be selected during construction and maintenance and therefore cannot be shown on a map; as noted in paragraph 3b(3), these sites will be selected so as to minimize the minor adverse environmental impacts that would occur.

2. UNITED STATES DEPARTMENT OF THE INTERIOR

(1) Comment: The draft does not mention project effects on floodflows in Kern River bypass channel which contains some of the best remaining valley mesquite habitat. Any project induced changes leading to mesquite reduction in the bypass channel would have adverse effects on wildlife. Therefore, floodflows should be contained in the bypass channel to preserve mesquite habitat. Also, secondary project effects on floodflows and riparian vegetation in other sloughs and channels in Kern River basin should be noted. Reduction of occasional uncontrolled runoff here could reduce existing wildlife habitat.

Response: The project will not affect in any way flows in the "Kern River Bypass Channel," more properly called the "Richfield Bypass," since the intertie is located several miles downstream of the bypass. Diversion of the infrequent floodflows (once in 10-20 years on the average) is not expected to affect riparian vegetation on channels located upstream of the intertie. Very little vegetation exists along the Kern River Flood Channel downstream (toward Tulare Lake) of the proposed project.

(2) Comment: Exact spoil disposal site locations are not identified. Impact on wildlife habitat from the disposal cannot be ascertained. The major effect would be in areas with vegetative cover.

Response: A discussion on potential spoil disposal areas has been added in paragraph 3b(3) of the EIS. Additional discussion is contained in the reply to comment (3) of the Environmental Protection Agency.

(3) Comment: The benefit-cost ratio does not include an economic value for water actually transferred from Kern River to the California Aqueduct. Presently, water charge from the Aqueduct in the vicinity of Buena Vista Lake is about $20 per acre-foot. The analysis should reflect this value. Likewise, in calculating the net value of irrigation water as used locally in vicinity of Tulare and Buena Vista Lakes, the value of the water in the Aqueduct should be shown as a benefit. Also, we suggest a table of benefits and costs be incorporated in the statement.

Response: The economic feasibility of the proposed plan is based solely on flood control benefits. Diversion of snowmelt floodwaters into the California Aqueduct would not result in any net benefits to municipal and industrial water supply, as any such savings would be offset by additional state costs associated with operation and maintenance of the intertie, including the cost of achieving the necessary coordination of varying inflows from the intertie with State Aqueduct operating objectives. Demonstration of economic feasibility is not considered to be an essential part of the environmental impact statement; however, the benefits and costs are stated in paragraph 1.

(4) Comment: Project operation is said to benefit waterfowl resources by reducing incidence of botulism. However, project impact on waterfowl habitat needs is not discussed. The extent of all waterfowl habitat reductions should be identified in the final statement.

Response: The greatest impact of the project on wildlife habitat will occur in construction of the sedimentation basin. Effects on wildlife habitat as a result of diverting snowmelt floodflows from the lower Kern River system are discussed in paragraph 3b(6) of the EIS.

(5) Comment: The final statement should discuss the impact that introduction of project water will have on water quality in the California Aqueduct. The statement does not describe the possibility of introducing this water into the Friant-Kern Canal where it could be used in-basin rather than elsewhere. The statement should indicate if this possibility has been considered and state the reasons for its rejection.

Response: Although some fine particles (less than 0.062 mm) will be deposited in the sedimentation basin, most are expected to remain in suspension and pass into the aqueduct and probably will be deposited in terminal storage reservoirs of the state water project or within the aqueduct. The Department of Water Resources has informally indicated that the quality of water would probably be acceptable. The Friant-Kern Canal is gravity operated and terminates at its confluence with Kern River upstream of the intertie site. Further, at the time of floodflows that would be diverted through the intertie, maximum use is being made of existing facilities in the general area. Therefore, there is no reasonable means to dispose of Kern River floodflows by the Friant-Kern Canal.

(6) Comment: The discussion of environmental impacts for each alternative is not sufficiently specific to permit any comparison between them to identify the least or most environmentally damaging plans. Criteria for selection of the best alternative appears to center around monetary costs with no attempt to weigh these costs against environmental impact. The final statement should fully discuss the impact of possible

alternatives and carefully compare relative degrees of environmental impact for each alternative.

Response: The discussions of environmental impacts for each alternative have been expanded so as to permit a better comparison.

(7) Comment: The statement does not adequately discuss project relationship to total flood problems of Tulare Lake. The significance of controlling Kern River floods in relation to total inflow from other basin streams including Kings, Kaweah, and Tule Rivers should be fully evaluated. Possibility of flooding from other inflows should be analyzed.

Response: The intertie is designed to minimize Kern River snowmelt floodflows only. Elimination of these waters from entering Tulare Lake will reduce the prolonged effects of flooding from other sources. Full consideration has been given to the residual floodflows expected from other related streams in computing the flood control benefits.

(8) Comment: The draft mentions that the intertie site location is near North and South Coles Levee oil fields. It should also describe the presence or lack of conflicts between the proposed project and existing mineral resources, especially since the Nation is facing an energy shortage.

Response: There are no known conflicts with the North and South Coles Levee oil fields or with other mineral resources.

(9) Comment: The statement does not adequately present historical and archeological information nor describe mitigation measures for reducing project impact on archeological values. Because of Buena Vista Lake's archeological importance and project proximity to known archeological deposits, an intensive survey of the 50-acre project area is desirable. More data is needed to present a complete assessment of the project's impact or that of the alternatives upon cultural features. Also, the draft should indicate consultation with the State Historic Preservation Officer; copy of his comments concerning project effects upon historical and archeological resources should be included in the final statement.

Response: The EIS has been revised to reflect archeological information and mitigation. Status of the National Park Service archeological survey and the comments of the State Historical Preservation Officer are discussed in paragraph 2 of the EIS. Any additional surveys or salvage of important resources required will also be accomplished by the Department of the Interior, National Park Service, as prescribed by law.

3. UNITED STATES DEPARTMENT OF AGRICULTURE

(1) Comment: The statement would be strengthened if it provided more information on the specific plans for revegetating the disturbed areas and the seeding of waste areas. Specific information would provide a better understanding of this problem and the intentions to minimize erosion and sediment production.

Response: The statement has been revised to provide additional information.

(2) Comment: The retention of sediment in the basin would reduce the amount of sediment that would otherwise be carried downstream. If this is significant, we suggest that it be discussed in the statement.

Response: Average annual sediment storage in the basin is estimated at about 4,500 cubic yards; however, in most years no sediment would be deposited as flows in the Kern River would be entirely depleted upstream of the intertie site. Although this amount of sediment is not considered significant, its elimination would tend to reduce, to some degree, clogging of downstream irrigation facilities and flood channels.

4. DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE

Comment: A review of the material does not indicate any problems of direct concern to this department.

5. FEDERAL HIGHWAYS ADMINISTRATION

Comment: We have reviewed the Draft Environmental Impact Statement for the Kern River - California Aqueduct Intertie, Kern County, California, and have no further comments to offer.

6. THE RESOURCES AGENCY OF CALIFORNIA

(1) Comment: The report indicates that the proposed plan of improvement would divert floodwaters out of the basin. Since the southern San Joaquin Valley is a particularly water-deficient area, we believe it should be clearly indicated in both the report and the environmental statement that the plan would serve only as a safety valve to dispose of water which, on rare occasions, is in excess and becomes a liability. On such occasions, the flow introduced into the California Aqueduct would be largely utilized in the basin south of the Tehachapi Mountains in lieu of water which would otherwise have been diverted in the same amount from the Sacramento-San Joaquin Delta. The project would provide improved management of water resources.

Response: Paragraph 1 of the EIS has been revised to point out this aspect of the project.

(2) Comment: The Kern River Bypass Channel area presently supports some of the most productive wildlife habitat in western Kern County. We understand that the project will not affect the need or use of the bypass. Any future change in the operation of the bypass as a direct or indirect result of the project should be critically evaluated.

Response: The project is not anticipated to cause any change in operation of the Kern River Bypass.

(3) Comment: It should be recognized in the statement that removal of floodwater from the lower Kern River system during high flow periods will have the effect of reducing the total acreage of valuable waterfowl habitat that has historically been created by floodflows. The project reduction of waterfowl botulism (discussed in the report and statement) would tend to offset such loss of habitat.

Response: A discussion of the effect of removing snowmelt floodwater from the lower Kern River system has been added in paragraph 3b(6) of the EIS.

(4) Comment: The report and statement indicate that approximately 460,000 cubic yards of material would be excavated from the channel in constructing the sedimentation basin. Sediments would be spoiled along existing levees and in backwater areas in the project area. Sediments removed from the basin during maintenance operations would also be spoiled in these areas. We believe that such deposition could be highly detrimental to wildlife habitat but that with proper selection of disposal sites such effects could be held to a minimum. Spoil area locations should be delineated in the project reports in order that the impact of the project on wildlife resources can be assessed. The reports should also discuss and recommend mitigation measures, if they are required.

Response: Deposition of sediments are discussed in paragraph 3b(3). Mitigation measures are discussed in paragraph 3c of the EIS. Both paragraphs have been expanded to include the comments. Specific locations of spoil would have to be selected during construction. Assistance of fish and wildlife agencies would be sought in selecting the sites. It appears that with spoil areas along existing levees as indicated, and with seeding and revegetation as applicable, net losses of vegetation would be very minor; however, every effort will be made to avoid destruction of existing vegetation.

(5) Comment: According to the values set forth in the statement, the 1969 snowmelt flood of Tulare Lakebed was much more damaging,

on an acreage-flooded basis, than the 1969 rain flood, but without further explanation the figures are misleading.

Response: Further explanation of the 1969 rain and snowmelt flood damage figures has been provided in paragraph 2 of the EIS.

(6) Comment: With regard to the Intertie structure, motor operators should be provided for the slide gates and a power supply provided during any discharge of floodwater into the California Aqueduct. This is mandatory to assure that contaminated floodwater resulting from an emergency in or along the Kern River could be prevented from entering the California Aqueduct by rapid closing of the slide gates.

Response: This matter will be considered during the preparation of plans and specifications for the project, if authorized. If it appears that the portable hoist cannot adequately meet the objective stated in this comment, individual hoists and an auxiliary power supply could be provided.

(7) Comment: While potential earthquake damage and public safety do not seem to be significant factors for the type of structures being proposed, a brief description of the geology and the magnitude of the maximum credible earthquake should be included to present a full picture.

Response: The project site is located in Kern County. Sedimentary marine rocks are exposed discontinuously along the western and southern margins of the valley in Kern County. These rocks are mainly semiconsolidated to consolidated sandstone, siltstone, and shale from Eocene to Middle or possibly late Pliocene in age. The soil of the project site consists of deep deposits of sandy clayey silt mixed with silty clayey sand, and also gravelly sandy clay. The project site is located about 18 miles from the San Andreas fault. The maximum credible earthquake for the project area is estimated to be about 8.0 measured on the Richter scale.

7. KERN COUNTY COUNCIL OF GOVERNMENTS (KERN COUNTY PLANNING COMMISSION)

(1) Comment: The Draft Statement does not indicate the frequency of a flood of this magnitude (1969 flood), nor does it indicate the expected amounts of snowmelt floodwaters for the 10 to 20 year flood interval when the intertie would actually be utilized. Is the 300,000 acre-feet (1969 flood) extraordinary, or is this amount expected every 10 to 20 years.

Response: Current estimates indicate that about 260,000 acre-feet of Kern River snowmelt waters would enter the Tulare Lake area during occurrence of a once-in-50-year event. A 25-year event results

in about 110,000 acre-feet of Kern River snowmelt water entering the Tulare Lake area under present conditions. The 1969 snowmelt flood on the Kern River has an estimated recurrence frequency of about once every 65 years.

(2) Comment: Is the estimated annual benefit of $275,000 based solely on the 1969 snowmelt flood level, and is the 1969 estimated snowmelt flood damage all attributable to the Kern River? The Statement is very unclear on the actual damage caused by snowmelt floods of the Kern River and how much damage is likely to occur at the 10 to 20-year interval the intertie will be utilized. Clarification of the method utilized to compute annual benefits should be made a part of the Statement. Operating costs, including removal of sediments from the sediment deposition basin should also be included in a benefit study.

Response: Average annual benefits attributable to the proposed project were evaluated as the difference in flood damages expected with and without the project. The estimated project benefits are based on a statistical evaluation of various sizes of expected floods. The reported 1969 damages of $16,300,000, in the Tulare Lake area, was due to snowmelt from the Kings, Kaweah, Tule and Kern Rivers. Kern River's contribution resulted from about 300,000 acre-feet of snowmelt water entering the lake. Since damages in the lake are proportionate to volume of inflow, damages due to Kern River inflow were prorated on that basis. The proposed intertie project would provide nearly 100-year protection to Tulare Lake from Kern River snowmelt flooding. Discussion of benefits is included in paragraph 3b(1) of the EIS. Operating costs of sediment removed from the sedimentation basin are included in the evaluation of benefits-cost.

(3) Comment: Are we correct in assuming that Kern County taxpayers, and not those in Kings County, will bear most of the project cost which is in excess of federal funding?

Response: The Kern County Water Agency has expressed its intent to provide the necessary assurances of local cooperation, including the payment of all construction cost in excess of $1,000,000. The source of these funds is not known.

(4) Comment: Further, would not the 1969 snowmelt flood damage be considerably smaller if significant portions of the Tulare Lake basin (73,000 acres of 88,000 acres) were not already flooded by rain floods of the Kings, Kaweah and Tule Rivers? (Total flood damage $27.4 million - total snowmelt damage $16.3 million after 73,000 acres were already flooded by rain floods.)

Response: Historically, snowmelt floods occur after rainfloods have entered Tulare Lakebed. The addition of the snowmelt waters tends to prolong the flooding effects of rainfloods and increases the period of non-crop production. Snowmelt damages are further discussed in paragraph 2 of the EIS.

8. KERN COUNTY PUBLIC WORKS DEPARTMENT AND COUNTY SURVEYOR

Comment: We suggest that the following be added to the last paragraph on page 13:

> If any archeological, historical or paleontological sites were to be discovered during the construction of the intertie, contact with the Director of the Kern County Museum should be made so that the archeological, historical or paleontological value of the site could be assessed.

Response: The EIS has been appropriately revised to include the suggestion.

9. KERN COUNTY WATER AGENCY

Comment: We find the report satisfactory, and have no comments to offer.

10. COUNTY OF TULARE

(1) Comment: It is unacceptable that the average annual 15,000 acre-feet of snowmelt floodwaters mentioned in the description of the project be allowed to leave the Tulare Lake Basin, unless a system of exchange for other water rights on equal quality water owned by the proposed recipients of the snowmelt be instituted. Such an agreement should be firmly and legally established between appropriate agencies, so that the residents of the Tulare Lake Basin would not be further deprived from water which is naturally and rightfully theirs.

Response: There are apparently no surplus (unappropriated) Kern River waters; all water rights are held, and the apparent holders to such rights desire that damaging Kern River snowmelt floodwaters be diverted out of the Kern River Basin. The Department of Water Resources is continuing to work with local agencies to reach agreement on water rights and expects that a satisfactory agreement can be developed. (See Resource Agency of California's letter in appendix C).

11. PROJECT LAND USE, INC.

(1) Comment: What is the real need for the project?

Response: The need for the project is stated in paragraphs 1 and 2 of the EIS.

(2) Comment: Precisely who benefits, and who pays?

Response: The Tulare Lake area benefits directly from the project, as well as the nation as a whole, since Tulare Lake is an important agricultural area. The Kern County Water Agency has expressed its intent to provide the necessary assurances of local cooperation. The Federal portion of the cost will be appropriated from general funds; the precise source of non-Federal funds is not known.

(3) Comment: Have all alternatives to the project been adequately considered?

Response: All appropriate alternatives are discussed in paragraph 5 of the EIS.

(4) Comment: What is the direct contribution by local interests to the overall project cost--including the loss of value to Kern County of the use of the 50 acres needed for project works and waste disposal areas?

Response: The estimated first and annual costs to local interests, including value of needed lands, are shown in paragraph 1 of the EIS.

(5) Comment: What evaluation was performed of the value of addition of supplemental nutrients to the soil by snowmelt flooding and inclusion of this as a benefit, if it so qualifies, in the benefit-cost analysis?

Response: The benefits claimed for this project are only those attributed to flood control. The flood control benefits are considered to be net of any beneficial effect of floodwaters, although no specific evaluation has been made of the nutrient value of snowmelt flooding.

(6) Comment: Although this is discussed and essentially dismissed in the Draft EIS, we believe there should be more consideration of the very real possibility that the small limited action contemplated is part of a cumulatively considerable project whose ultimate goal is to

provide sufficient flood protection for the Tulare Lakebed area and adjacent lands to convert use from agriculture to industrial, commercial or residential uses.

Response: With high likelihood of continued flooding from other streams, urban and industrial uses in the Tulare Lakebed area are severely limited.

(7) Comment: If the Kern County Water Agency is involved, are they the actual sponsor of this project? If so, should they, rather than the Corps, prepare the environmental impact report?

Response: Although Kern County Water Agency is considered to be the local sponsor of the project, the Corps of Engineers is required by law to prepare an environmental statement on proposed actions which have a significant impact on the environment. Although we do not know for certain what action, if any, will be required by Kern County Water Agency, we believe that any non-Federal environmental reporting requirements would be substantially fulfilled by this Federal EIS.

(8) Comment: Paragraph 2 describes the sediment basin in Kern County and periodic removal of sediments from the basin. By whom would these be removed - the Corps? A Kern County agency? What are the costs of the disposal, and who will pay for it?

Response: The removal of sediments from the basin will be a non-Federal responsibility, and the costs of such removal must be borne by non-Federal interests. Average annual cost of sediment removal is estimated at $4,600. Kern County Water Agency has expressed intent to provide the local requirements; the actual maintenance agency is not known.

(9) Comment: The 2.8 to 1.0 benefit-cost ratio is stated, indicating "an economically feasible project." Although we are not economists, an itemization of the factors that were included in the calculation of the ratio should be included in the EIS to assist those evaluating the project.

Response: Benefits and costs are presented in paragraph 1 from which the benefit-cost ratio is calculated. The background material and methodology used in calculation of the benefit-cost ratio are considered too detailed for inclusion in this statement, which is a statement of environmental impact and is not intended to explain procedures of economic and technical evaluation.

(10) Comment: Have the alternatives of flood plain insurance or declaration of the area as a disaster area eligible for financial relief during the infrequent snowmelt conditions been evaluated?

Response: The possible contribution of flood plain management techniques to the appropriate use of the Tulare Lake area has been considered. The intent of such techniques is that uneconomic, hazardous, and unnecessary uses of flood plain lands be precluded as fully as possible. Present land use within the Tulare Lake area appears to be appropriate for the flood hazard involved. Although losses might be compensated through some form of insurance or disaster relief, nevertheless damages would continue to occur and national economic benefits would be foregone.

APPENDIX C

LETTERS OF COMMENT RECEIVED

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
100 CALIFORNIA STREET
SAN FRANCISCO, CALIFORNIA 94111

Colonel F. G. Rockwell, Jr.
Corps of Engineers
Sacramento District
650 Capitol Mall
Sacramento CA 95814

SEP 26 1973

Re: SPKED-P

Dear Colonel Rockwell:

We are replying to your July 20, 1973 request for review of the draft environmental impact statement on the proposed Kern River-California Aqueduct Intertie, Kern County, California.

The Environmental Protection Agency believes that the draft impact statement does not adequately assess the environmental impact of the proposed project. EPA requests more information and analysis concerning certain aspects of the project which, on the basis of the draft statement submitted, are alluded to but unresolved. EPA requests that substantial revision be made to the impact statement. This constitutes a rating of Category 3 which will be published in the Federal Register in conformance with this Agency's responsibility to inform the public of our views on proposed Federal actions under Section 309 of the Clean Air Act. A description of this rating system is attached as are our specific comments on the statement.

We appreciate this opportunity to review the draft statement and request that five copies of the final statement be submitted to this office at the time that the final statement is sent to the Council on Environmental Quality.

Sincerely,

Paul De Falco, Jr.
Regional Administrator

Enclosures

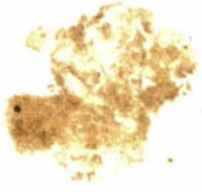
cc: Council on Environmental Quality
California Regional WQC Board, Central Valley Region, Fresno CA

Comments on the Corps of Engineers draft impact statement, Kern River - California Aqueduct Intertie, Kern County, California.

1. There is not a clear rendering of the secondary impacts of supplying an average annual equivalent of 15,000 acre feet of water for flow augmentation to the California Aqueduct. This rendering should not only refer to existing and potential downstream users, but also should refer to upstream users as well who would benefit if normal project deliveries to the service area downstream of the proposed intertie were surplus. There is a need to resolve who will be the recipients of such flow augmentation benefits since it could potentially encompass management decisions affecting the Sacramento-San Joaquin Delta.

2. There is a need to define the context within which this proposed project fits as far as the overall program of "additional flood control and other improvements affecting the Tulare Lake area" alluded to on page 11 of the draft statement.

3. More specifically delineate the mineral and chemical makeup of sediments and their subsequent impact on water detained in the sedimentation basin. In addition, locate the perferable spoils deposition areas on a map within the project area.



Environmental Impact of the Action

LO--Lack of Objections

EPA has no objections to the proposed action as described in the draft impact statement; or suggests only minor changes in the proposed action.

ER--Environmental Reservations

EPA has reservations concerning the environmental effects of certain aspects of the proposed action. EPA believes that further study of suggested alternatives or modifications is required and has asked the originating Federal agency to reassess these aspects.

EU--Environmentally Unsatisfactory

EPA believes that the proposed action is unsatisfactory because of its potentially harmful effect on the environment. Furthermore, the Agency believes that the potential safeguards which might be utilized may not adequately protect the environment from hazards arising from this action. The Agency recommends that alternatives to the action be analyzed further (including the possibility of no action at all).

Adequacy of the Impact Statement

Category 1--Adequate

The draft impact statement adequately sets forth the environmental impact of the proposed project or action as well as alternatives reasonably available to the project or action.

Category 2--Insufficient Information

EPA believes that the draft impact statement does not contain sufficient information to assess fully the environmental impact of the proposed project or action. However, from the information submitted, the Agency is able to make a preliminary determination of the impact on the environment. EPA has requested that the originator provide the information that was not included in the draft statement.

Category 3--Inadequate

EPA believes that the draft impact statement does not adequately assess the environmental impact of the proposed project or action, or that the statement inadequately analyzes reasonably available alternatives. The Agency has requested more information and analysis concerning the potential environmental hazards and has asked that substantial revision be made to the impact statement.

If a draft impact statement is assigned a Category 3, no rating will be made of the project or action, since a basis does not generally exist on which to make such a determination.

UNITED STATES
DEPARTMENT OF THE INTERIOR
OFFICE OF THE SECRETARY
PACIFIC SOUTHWEST REGION
BOX 36098 • 450 GOLDEN GATE AVENUE
SAN FRANCISCO, CALIFORNIA 94102
(415) 556-8200

ER 73/1014

September 24, 1973

Colonel F. G. Rockwell, Jr.
District Engineer
Sacramento District
650 Capitol Mall
Sacramento, California 95814

Dear Colonel Rockwell:

The Department of the Interior has reviewed the draft environmental statement for Kern River-California Aqueduct Intertie, Kern County, California.

The draft does not mention project effects on flood flows in Kern River bypass channel which contains some of the best remaining valley mesquite habitat. Any project induced changes leading to mesquite reduction in the bypass channel would have adverse effects on wildlife. Therefore, flood flows should be contained in the bypass channel to preserve mesquite habitat. Also, secondary project effects on flood flows and riparian vegetation in other sloughs and channels in Kern River basin should be noted. Reduction of occasional uncontrolled runoff here could reduce existing wildlife habitat.

Exact spoil disposal site locations are not identified. Impact on wildlife habitat from the disposal cannot be ascertained. The major effect would be in areas with vegetative cover.

Project operation is said to benefit waterfowl resources by reducing incidence of botulism. However, project impact on waterfowl habitat needs is not discussed. The extent of all waterfowl habitat reductions should be identified in the final statement.

The draft states that the project will not significantly affect rare or endangered species in the project area.

Clarification is needed concerning project effects on the rare San Joaquin kit fox and endangered blunt-nosed leopard lizard. Also, much of the remaining undeveloped San Joaquin Valley lands will eventually be developed for agriculture. The possibility that all remaining areas may be critically important for these species should be evaluated.

The benefit-cost ratio does not include an economic value for water actually transferred from Kern River to the California Aqueduct. Presently, water charge from the Aqueduct in the vicinity of Buena Vista Lake is about $20 per acre-foot. The analysis should reflect this value. Likewise, in calculating the net value of irrigation water as used locally in vicinity of Tulare and Buena Vista Lakes, the value of the water in the Aqueduct should be shown as a benefit. Also, we suggest a table of benefits and costs be incorporated in the statement.

The final statement should discuss the impact that introduction of project water will have on water quality in the California Aqueduct. The statement does not describe the possibility of introducing this water into the Friant-Kern Canal where it could be used in-basin rather than elsewhere. The statement should indicate if this possibility has been considered and state the reasons for its rejection.

The discussion of environmental impacts for each alternative is not sufficiently specific to permit any comparison between them to identify the least or most environmentally damaging plans. Criteria for selection of the best alternative appears to center around monetary costs with no attempt to weigh these costs against environmental impact. The final statement should fully discuss the impact of possible alternatives and carefully compare relative degrees of environmental impact for each alternative.

The statement does not adequately discuss project relationship to total flood problems of Tulare Lake. The significance of controlling Kern River floods in relation to total inflow from other basin streams including Kings, Kaweah, and Tule Rivers should be fully evaluated. Possibility of flooding from other inflows should be analyzed.

The draft mentions that the intertie site location is near North and South Coles Levee oil fields. It should also describe the presence or lack of conflicts between the

proposed project and existing mineral resources, especially since the Nation is facing an energy shortage.

The statement does not adequately present historical and archeological information nor describe mitigation measures for reducing project impact on archeological values. Because of Buena Vista Lake's archeological importance and project proximity to known archeological deposits, an intensive survey of the 50-acre project area is desirable. More data is needed to present a complete assessment of the project's impact or that of the alternatives upon cultural features. Also, the draft should indicate consultation with the State Historic Preservation Officer; copy of his comments concerning project effects upon historical and archeological resources should be included in the final statement.

We appreciate the opportunity to review and comment on the Draft Environmental Statement.

Sincerely yours,

Webster Otis

Webster Otis
Special Assistant to the Secretary

cc: Dir., OEPR, Washington, D. C.
Reg. Dir., BSFW, Portland
Reg. Dir., BOR, San Francisco
Reg. Dir., NPS, San Francisco
Dir., Mines, Washington, D. C.
St. Dir., BLM, Sacramento
Reg. Dir., BR, Sacramento
Area Dir., BIA, Sacramento

UNITED STATES DEPARTMENT OF AGRICULTURE

SOIL CONSERVATION SERVICE

Washington, D. C. 20250

SEP 19 1973

Colonel F. G. Rockwell, Jr.
District Engineer
Sacramento District
Corps of Engineers
650 Capitol Mall
Sacramento, California 95814

Dear Colonel Rockwell:

This is in response to your letter of July 20, 1973, requesting Department of Agriculture comments on the draft environmental statement for the Kern River - California Aqueduct Intertie, Kern County, California.

The statement would be strengthened if it provided more information on the specific plans for revegetating the disturbed areas and the seeding of waste areas. Specific information would provide a better understanding of this problem and the intentions to minimize erosion and sediment production.

The retention of sediment in the basin would reduce the amount of sediment that would otherwise be carried downstream. If this is significant, we suggest that it be discussed in the statement.

We appreciate the opportunity to review and provide comments on this environmental statement.

Sincerely,

William B. Davey
Deputy Administrator for
Water Resources

DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
REGIONAL OFFICE
Office of Environmental Affairs

OFFICE OF
THE REGIONAL DIRECTOR

September 11, 1973

F. G. Rockwell, Jr
Colonel, CE
District Engineer
Sacramento District, Corps of Engineers
650 Capitol Mall
Sacramento, Ca 95814

Dear Sir:

This letter will acknowledge receipt of the draft Environmental Impact Statement for the Kern River-California Aqueduct Intertie, Kern County, California.

The statement describes the proposed development of a samll flood control project consisting of a concrete chute, gate structure and sedimentation basin in Kern County, California. A review of the material does not indicate any problems of direct concern to this department.

The opportunity to review the statement is appreciated.

Sincerely yours,

James D. Knochenhauer
Regional Environmental Officer

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION–REGION SEVEN

ARIZONA
CALIFORNIA
HAWAII
NEVADA

450 Golden Gate Avenue, Box 36096, San Francisco, Calif. 94102

August 17, 1973

IN REPLY REFER TO:
9ED

Colonel F. G. Rockwell, Jr.
District Engineer
Department of the Army
Sacramento District, Corps of Engineers
650 Capitol Mall
Sacramento, California 95814

Dear Colonel Rockwell:

We have reviewed the Draft Environmental Impact Statement for the Kern River-California Aqueduct Intertie, Kern County, California, and have no further comments to offer.

Thank you again for giving us the opportunity for this review.

Sincerely yours,

For F. E. Hawley
Regional Administrator

NORMAN B. LIVERMORE, JR.
SECRETARY

RONALD REAGAN
GOVERNOR OF
CALIFORNIA

OFFICE OF THE SECRETARY
RESOURCES BUILDING
1416 NINTH STREET
95814

Department of Conservation
Department of Fish and Game
Department of Navigation and
Ocean Development
Department of Parks and Recreation
Department of Water Resources

Air Resources Board
Colorado River Board
San Francisco Bay Conservation and
Development Commission
Solid Waste Management Board
State Lands Commission
State Reclamation Board
State Water Resources Control Board
Regional Water Quality Control Boards

THE RESOURCES AGENCY OF CALIFORNIA
SACRAMENTO, CALIFORNIA

JAN 28 1974

Colonel F. G. Rockwell, Jr.
District Engineer
Sacramento District
U. S. Army Corps of Engineers
650 Capitol Mall
Sacramento, CA 95814

Dear Colonel Rockwell:

The State has reviewed the "Draft Detailed Project Report on the Kern River Intertie, Kern County, California" which was transmitted by your letter of July 20, 1973. Also reviewed was the draft environmental statement on the Intertie which was transmitted to the Governor's Office, State Clearinghouse of the Office of Intergovernmental Management.

Participating in the review were the state agencies listed at the end of this letter. Following are the State's comments.

The report indicates that the proposed plan of improvement would divert floodwaters out of the basin. Since the southern San Joaquin Valley is a particularly water-deficient area, we believe it should be clearly indicated in both the report and the environmental statement that the plan would serve only as a safety valve to dispose of water which, on rare occasions, is in excess and becomes a liability. On such occasions, the flow introduced into the California Aqueduct would be largely utilized in the basin south of the Tehachapi Mountains in lieu of water which would otherwise have been diverted in the same amount from the Sacramento-San Joaquin Delta. The project would provide improved management of water resources.

The position of cooperation and support for the project as expressed in the Department of Water Resources' letter of June 19, 1972, to your office is reiterated. The Department is continuing to work with local agencies to reach agreement on water rights and expects that a satisfactory agreement can be developed.

The Kern River Bypass Channel area presently supports some of the most productive wildlife habitat in western Kern County. We understand that the project will not affect the need or use of the bypass. Any future change in the operation of the bypass as a direct or indirect result of the project should be critically evaluated.

It should be recognized in the statement that removal of floodwater from the lower Kern River system during high flow periods will have the effect of reducing the total acreage of valuable waterfowl habitat that has historically been created by floodflows. The project reduction of waterfowl botulism (discussed in the report and statement) would tend to offset such loss of habitat.

The report and statement indicate that approximately 460,000 cubic yards of material would be excavated from the channel in constructing the sedimentation basin. Sediments would be spoiled along existing levees and in backwater areas in the project area. Sediments removed from the basin during maintenance operations would also be spoiled in these areas. We believe that such deposition could be highly detrimental to wildlife habitat but that with proper selection of disposal sites such effects could be held to a minimum. Spoil area locations should be delineated in the project reports in order that the impact of the project on wildlife resources can be assessed. The reports should also discuss and recommend mitigation measures, if they are required.

According to the values set forth in the statement, the 1969 snowmelt flood of Tulare Lakebed was much more damaging, on an acreage-flooded basis, than the 1969 rain flood, but without further explanation the figures are misleading.

With regard to the Intertie structure, motor operators should be provided for the slide gates and a power supply provided during any discharge of floodwater into the California Aqueduct. This is mandatory to assure that contaminated flood water resulting from an emergency in or along the Kern River could be prevented from entering the California Aqueduct by rapid closing of the slide gates.

While potential earthquake damage and public safety do not seem to be significant factors for the type of structures being proposed, a brief descreption of the geology and the magnitude of the maximum credible earthquake should be included to present a full picture.

Thank you for the opportunity to comment on this report and statement.

Sincerely yours,

N. B. LIVERMORE, JR.
Secretary for Resources

By Paul F. Cole, Jr.

cc: Mr. Mark Briggs
Director of Management Services
State Clearinghouse
Office of Planning and Research
1400 Tenth Street
Sacramento, CA 95814
(SCH No. 73073071)

Air Resources Board
Department of Conservation
Department of Fish and Game
Department of Food and Agriculture
Department of Health
Department of Navigation and Ocean Development
Department of Parks and Recreation
Department of Transportation
Department of Water Resources
The Reclamation Board
State Lands Division
State Water Resources Control Board

KERN COUNTY COUNCIL OF GOVERNMENTS
1098 26th Street, Bakersfield, California, 93301
(805) 861-2191

September 6, 1973

Mr. George C. Weddell, Chief
Engineering Division
Department of the Army
Sacramento District, Corps of Engineers
650 Capitol Mall
Sacramento, California 95814

Dear Mr. Weddell:

Subject: Draft Environmental Statement for the Kern River-California Aqueduct Intertie

As metropolitan clearinghouse for this area, Kern COG distributed the statement to the Kern County Planning Commission, the Kern County Water Agency, and Project Land Use.

Enclosed is a copy of the only comments received--those of the Planning Commission. The Kern COG council considered these comments at its regular meeting September 5, 1973, and instructed me to forward them to you.

Sincerely,

Lanier C. Greer
Executive Director

jln
Enc.

cc: Jack L. Dalton, Planning Director

Office Memorandum • KERN COUNTY

TO : LANIER GREER, Kern COG DATE: August 1, 1973

FROM : JACK L. DALTON, Planning Director
By : ROBERT E. ERICKSON, Principal Planner

SUBJECT: Kern River - California Aqueduct Intertie
Draft Environmental Statement dated June, 1973

This Department has concerns regarding the intertie involving the actual benefits to be derived from the project, the methods of benefit evaluation, and the general lack of facts showing the true effect of the project.

Much of the flood control benefits contained in the Draft Environmental Statement appear to be based on the 1969 flood of the Tulare Lake area. Of the 1,100,000-acre feet of water contained in the lake in 1969, only 300,000-acre feet is attributed to snowmelt flood waters of the Kern River. The Draft Statement does not indicate the frequency of a flood of this magnitude, nor does it indicate the expected amounts of snowmelt flood waters for the 10 to 20 year flood interval when the intertie would actually be utilized. Is the 300,000-acre feet extraordinary, or is this amount expected every 10 to 20 years? Is the estimated annual benefit of $275,000 based solely on the 1969 snowmelt flood level, and is the 1969 estimated snowmelt flood damage all attributable to the Kern River? This is not identified in the Statement.

Further, would not the 1969 snowmelt flood damage be considerably smaller if significant portions of the Tulare Lake basin (73,000 acres of 88,000 acres) were not already flooded by rain floods of the Kings, Kaweah and Tule Rivers? (Total flood damage $27.4 million - total snowmelt damage $16.3 million after 73,000 acres were already flooded by rain floods.) The Statement is very unclear on the actual damage caused by snowmelt floods of the Kern River and how much damage is likely to occur at the 10 to 20-year interval the intertie will be utilized. Clarification of the method utilized to compute annual benefits should be made a part of the Statement. Operating costs, including removal of sediments from the sediment deposition basin should also be included in a benefit study.

While the dollar benefit previously mentioned may prove to be valid, the overall benefit appears to favor a very limited number of farmers in Kings County at infrequent intervals. Are we correct in assuming that Kern County taxpayers, and not those in Kings County, will bear most of the project cost which is in excess of federal funding? In addition, most of the land in question is somewhat marginal from a farming standpoint (Group III soils).

It would appear that a greater benefit for a greater number of persons could occur through application of Alternative A. Additional upstream storage on the Kern River is mentioned as being economically feasible in the Environmental Statement. Such a project could serve to decrease the Kern River snowmelt flood problem approximately one-third while providing substantially increased benefits to a much larger group, including residents

of the Kern River Valley and downstream water users. Alternative A will be less effective in alleviating the Tulare Lake basin problem than would the intertie. However, it should be emphasized that the Tulare Lake basin flood problems will continue to exist on a somewhat reduced scale if the intertie is constructed, as a result of flood waters from other sources.

Thank you for giving this office an opportunity to review this Environmental Statement.

esp

PUBLIC WORKS
DEPARTMENT
AND
COUNTY SURVEYOR

L. Dale Mills
Public Works Director
and
County Surveyor
Kern County, California
2601 "O" St., Bakersfield 93301
861-2481

September 19, 1973

In reply please refer to

Department of the Army
Sacramento District, Corps of Engineers
650 Capitol Mall
Sacramento, CA 95814

Gentlemen:

Draft Environmental Statement for the Kern River
California Aqueduct Intertie

We have reviewed the draft environmental statement on the Kern River - California Aqueduct Intertie as you requested on July 20, 1973.

We suggest that the following be added to the last paragraph on page 13:

> If any archaeological, historical or paleontological sites were to be discovered during the construction of the intertie, contact with the Director of the Kern County Museum should be made so that the archaeological, historical or paleontological value of the site could be assessed.

Thank you for providing us with the opportunity to comment on your Environmental Impact Report.

Very truly yours,

L. Dale Mills
Director and County Surveyor

LDM/JFK/te

KERN COUNTY WATER AGENCY

1415 18th Street, Room 418
Bakersfield, California 93301

Directors:

Robert L. Smith Division 1
J. Elliott Fox Division 2
Jock G. Thomson Division 3
Floyd S. Cooley Division 4
Gerold H. Komproth Division 5
Henry C. Gornett Division 6
President
Rodger G. Cole Division 7

Telephone: 327-7973

Stuart T. Pyle
Engineer-Manager

Edna M. Purvines
Secretary

September 13, 1973

File No. 9.2.2

George C. Weddell, Chief
Engineering Division
Department of the Army
Sacramento District
Corps of Engineers
650 Capitol Mall
Sacramento, California 95814

Dear Sir:

We have reviewed the draft environmental statement for the Kern River-California Aqueduct Intertie, revised June 1973.

We find the report satisfactory, and we have no comments to offer.

Yours very truly,

Stuart T. Pyle
Engineer-Manager

xc: Kern County Council
of Governments
Mr. Stan Barnes
Mr. Arnold S. Rummelsburg

County of Tulare

PLANNING DEPARTMENT
Telephone (209) 732-5511 - Ext. 341
Room 107, Courthouse
VISALIA, CALIFORNIA 93277

October 11, 1973

George C. Weddell
Chief, Engineering Division
Department of the Army
Sacramento District, Corps of Engineers
650 Capitol Mall
Sacramento, California 95814

Dear Mr. Weddell:

Thank you for the opportunity, on behalf of Tulare County to comment on the proposed Kern River-California Aqueduct Intertie in Kern County. This project does directly affect Tulare County and its residents, and it is appropriate that their concerns should be considered. I recommend that you contact the consulting firm, Daniel Johnson Mendenhall and Johnson, or The State Water Resources Control Board, who are presently engaged on a Basin Study for the Tulare Lake Basin. Rough draft of this study is to be completed about November 1, 1973.

The most severe problem that the Tulare Lake Basin has is the continuing accretion of salts to the ground water body in this closed system. An additional problem is the continued overdraft from the groundwater supply, caused by an insufficient surface water supply to meet all agricultural needs. The most obvious and helpful solution to both these situations is the addition of good quality water (snowmelt is excellent) to the Basin supply whenever possible.

Under these circumstances, it is unacceptable that the average annual 15,000 acre-feet of snowmelt floodwaters mentioned in the description of the project be allowed to leave the Tulare Lake Basin, unless a system of exchange for other water rights on equal quality water owned by the proposed recipients of the snowmelt be instituted. Such an agreement should be firmly and legally established between appropriate agencies, so that the residents of the Tulare Lake Basin would not be further deprived from water which is naturally and rightfully theirs.

The Environmental Impact Statement submitted to this county by the Department of the Army, Corps of Engineers, is not acceptable if it does not recognize this adverse effect to the Basin which cannot be avoided unless the above mentioned mitigating measures are proposed and carried out.

Sincerely,

TULARE COUNTY PLANNING DEPARTMENT
Robert L. Wall, Planning Director

Gloria S. McGregor
Assistant Planning Director

GSM:cs

KERN COUNTY

PROJECT LAND USE, INC.

A TASK FORCE STUDY

5101 Ojai Drive
Bakersfield CA 93306

10 October 1973

DEPARTMENT OF THE ARMY
Sacramento District
Corps of Engineers
650 Capitol Mall
Sacramento CA 95814

RE: SPKED-P : Your letter dated 20 July 1973 w/att Draft EIS

Attn: George C. Weddell, Chief, Engineering Division

Gentlemen:

We have reviewed the June 1973 revised Draft Environmental Impact Statement (EIS) for the proposed Kern River - California Aqueduct Intertie, Kern County.

1. For the record, Project Land Use, Inc. became a nonprofit California corporation in May 1973, assuming the functions of its predecessor unincorporated association which was formed in February 1971.

2. We note that you have answered some of the questions raised in our testimony of May 4, 1972; but others remain. These include:

   A. WHAT IS THE REAL NEED FOR THE PROJECT?

   B. PRECISELY WHO BENEFITS, AND WHO PAYS?

   C. HAVE ALL ALTERNATIVES TO THE PROJECT BEEN ADEQUATELY CONSIDERED?

3. To assist in answering these questions, we recommend the EIS include, after your verification of the facts, the following information which surfaced during the deliberations of the United States Supreme Court in Salyer Land Co. v. Tulare Water District, No. 71-1456 (U.S. Mar. 20, 1973); 3 ELR 20437 - 20443. From the majority opinion delivered by Mr. Justice Rehnquist:

> "Appellee district consists of 193,000 acres of intensively cultivated, highly fertile farm land located in the Tulare Lake Basin. Its population consists of 77 persons, including 18 children, most of whom are employees of one or another of the four corporations that farm 85% of the land in the district." (emphasis added)

The lawsuit directly concerned voting rights in elections of the water storage district, and in this the Court found "only landowners are permitted to vote in water storage district general elections, and votes in those elections are apportioned according to the assessed valuation of the land."

While the majority of the Court held that the voter qualification statutes for California water storage district elections are rationally based and do not violate the U.S. Constitution, in making this finding the Court also reported in the majority opinion:

> "The J.G. Boswell Company, which owns 61,665.54 acres with an assessed valuation of $3,782,220 was entitled to cast 37,825 votes in the election."

In the minority dissent written by Mr. Justice Douglas, with whom Mr. Justice Brennan and Mr. Justice Marshall concurred, we learn further:

> "There are 189 landowners who own up to 80 acres each. These 189 represent 2.34% of the agricultural acreage of the district. There are 193,000 acres in the district. Petitioner Salyer Land Company is one large operator, West Lake Farms and South Lake Farms are also large operators. The largest is J. G. Boswell Co. These four farm almost 85% of all the land in the district. Of these J.G. Boswell Co. commands the greatest number of votes, 37,825, which are enough to give it a majority of the board of directors. As a result it is permanently in the saddle. Almost all of the 77 residents of the district are disfranchised. The hold of J.G. Boswell Co. is so strong that there has been no election since 1947..." (emphasis added)

The relevance of the importance of the J.G. Boswell Co. in the proposed project evaluation concerns the alleged NEED for the project. Much of the project justification is based on damages caused by snowmelt waters in 1969. Therefore, the Court's report of the CAUSE OF THAT DAMAGE should be included in your EIS. Quoting again from the minority opinion:

> "From its inception in 1926 this district has had repeated flood control problems. Four rivers, Kings, Kern, Tule, and Kaweah, enter Tulare Lake Basin. South of Tulare Lake Basin is Buena Vista Lake. In the past Buena Vista has been used to protect Tulare Lake Basin by storing Kern River in the former. That is how Tulare Lake Basin was protected from menacing floods in 1952. But that was not done in the great 1969 flood, the result being that 88,000 of the 193,000 acres in respondent district were flooded. The Board of the respondent district - dominated by the big landowner J. G. Boswell Co. - voted 6 - 4 to table the motion that would put into operation the machinery to divert the flood waters to the Buena Vista Lake. The reason is that J. G. Boswell Co. had a long term agricultural lease in the Buena Vista Lake basin and flooding it would have interferred with the planting, growing and harvesting of crops the next season." (emphasis added)

4. The following specific questions raised in our May 4, 1972 testimony also remain unanswered:

A. What is the direct contribution by local interests to the overall project cost -- including the loss of value to Kern County of the use of the 50 acres needed for project works and waste disposal areas?

B. What evaluation was performed of the value of addition of supplemental nutrients to the soil by snowmelt flooding and inclusion of this as a benefit, if it so qualifies, in the benefit-cost analysis?

C. Have the alternatives of floodplain insurance or declaration of the area as a disaster area eligible for financial relief during the infrequent snowmelt conditions been evaluated?

D. Although this is discussed and essentially dismissed in the Draft EIS, we believe there should be more consideration of the very real possibility that the small limited action contemplated is part of a cumulatively considerable project whose ultimate goal is to provide sufficient flood protection for the Tulare Lake Bed area and adjacent lands to convert use from agriculture to industrial, commercial or residential uses.

5. Turning to the June 1973 Draft EIS, we have the following observations and questions:

Page 2 - Paragraph two identifies some of the local interests, including water districts, the State of California, and Kern County Water Agency as those who desire floodwaters to be diverted into the California Aqueduct through use of the intertie project.

A. These "local interests" still require more precise identification.

B. If the Kern County Water Agency is involved, are they the actual sponsor of this project? If so, should they, rather than the Corps, prepare the environmental impact report?

Page 3 - Paragraph one indicates that snowmelt flood flow diversion would occur statistically on the average of once in 10 to 20 years. In view of the infrequency of the hazard, the unexplored alternatives, and the unidentified beneficiaries, it is difficult to evaluate the justification for the project.

Page 4 - Paragraph two describes the sediment basin in Kern County and periodic removal of sediments from the basin. By whom would these be removed - the Corps? A Kern County agency? What are the costs of the disposal, and who will pay for it?

Page 6 - The 2.8 to 1.0 benefit-cost ratio is stated, indicating "an economically feasible project." Although we are not economists, an itemization of the factors that were included in the calculation of the ratio should be included in the EIS to assist those evaluating the project.

Page 6 - Item 2. indicates local interests have constructed a complex system of conveyance channels and related facilities in the basin for utilization of Kern River water for irrigation purposes. Has the Corps of Engineers assisted in the construction of any of these projects? Why can't the local interests provide for themselves whatever facilities are necessary for protection from the relatively infrequent high snowmelt water runoff?

Page 9 - We note the Corps has included some information about property ownerships in terms of numbers and concentration which appears to verify the information contained in more detail in the Supreme Court's decision reported above.

Page 10 - The Draft EIS attempts to answer one of the questions we raised, namely, the general plan for the area and the fact that over 90% of the Lake is in agricultural preserves under the California Land Conservation Act of 1965. This information should be supplemented with:

A. The number of acres actually under agreement or contract pursuant to the Land Conservation Act, and

B. The ease or difficulty with which a contract may be cancelled in Tulare County.

The mere fact that land is designated "agricultural preserve" may or may not (1) insulate it from general plan amendments and (2) mean that such land is actually under contract. Experience in Kern County indicates that the existence of a contract or agreement does not necessarily commit land to agricultural use for a predictable period of time as long as the county and the landowner may chooseto abruptly cancel the contract. (Such cancellation is one of the causes of action in the lawsuit Sierra Club, Inc. & Project Land Use, Inc. v. The Board of Supervisors of the County of Kern, et al., Civil No. 125058, Kern County Superior Court; OSC hearing set 8 Nov 73)

Page 13 - Plans for the areas on both sides of Kern River refer to the Kern County Parks and Recreation Plan adopted by Kern County in 1966. We suggest the most current information would come from elements of the Kern County General Plan adopted in 1972 and 1973 - namely, the Open Space - Conservation and Land Use Elements.

In addition, the Draft EIS describes the development of the Buena Vista Aquatic Recreation Area and defines it as a "recreation facility" scheduled for completion in mid-1973. The opening of the facility has been delayed indefinitely for a variety of reasons, including construction difficulties.

Any discussion of the Buena Vista Aquatic Recreation Area should not be limited to the recreational facility but should also include the Highly controversial November 1972 proposal by Stockdale Development Corporation, a division of Tenneco, to develop approximately 12,000 acres across from the recreation park for more than 2,500 marina-oriented second-homesites. The Stockdale proposal is contingent upon reaching an agreement with the County involving use of the water from the partially State-funded public lake. The extent of the controversy should also include reference to the letter dated September 5, 1973 from the State Attorney General to the Kern County Board of Supervisors requesting a reply to various questions concerning the applicability of the California Environmental Quality Act of 1970 to the proposed Stockdale development.

Project Land Use is not without precedent in suggesting that a public project, even though "minor" in scope, may be a limited activity that becomes part of a cumulatively considerable project and can result in major and potentially controversial land use changes.

This possibility should be fully explored in your EIS on the Intertie Project.

Page 17A. - Section 5, "Alternatives", does not consider the cost of floodplain insurance compared to the cost of the project; disaster area designation costs and benefits, including evacuation of the 77 residents, compared to the proposed project; or other alternatives that could provide human assistance and financial relief during the infrequent snowmelt flood conditions without construction of the proposed project.

In light of the apparent "cause" of the 1969 problems, evaluation of alternatives other than those listed in the Draft EIS becomes increasingly important.

Thank you again for providing us an opportunity to comment.

Yours truly,

PROJECT LAND USE, INC.

Frederic A. Lane, MD
President

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CC: All from whom Comments Requested per introductory page 1 of Draft EIS of June 1973

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Fort Belvoir VA 22060-6218

22 October 2008

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SUBJECT: Submission of technical reports for inclusion in Technical Reports Database

The enclosed documents from USACE Sacramento District are hereby submitted for inclusion in DTIC's technical reports database. The following is a list of documents included in this shipment:

ADB344304 • Lemon Reservoir Florida River, Colorado. Report on reservoir regulation for flood control, July 1974

ADB344333 • Reconnaissance report Sacramento Metropolitan Area, California, February 1989

ADB344346 • New Hogan Dam and Lake, Calaveras River, California. Water Control Manual Appendix III to Master Water Control Manual San Joaquin River Basin, California, July 1983

ADB344307 • Special Flood Hazard Study Nephi, Utah, November 1998 (cataloged)

ADB344344 • Special Study on the Lower American River, California, Prepared for US Bureau of Reclamation – Mid Pacific Region and California Dept. of Water Resources..., March 1987

ADB344313 • Transcript of public meeting Caliente Creek stream group investigation, California, held by, the Kern County Water Agency in Lamont, California, 9 July 1979

ADB344302 • Initial appraisal Sacramento River Flood control project (Glenn-Colusa), California, 10 February 1989

ADB344485 • Report on November-December 1950 floods Sacramento-San Joaquin river basins, California and Truckee, Carson, and Walker rivers, California and Nevada, March 1951

ADB344268 • Reexamination Little Dell Lake, Utah, February 1984

ADB344197 • Special report fish and wildlife plan Sacramento River bank protection project, California, first phase, July 1979

ADB344264 • Programmatic environmental impact statement/environmental impact report Sacramento River flood control system evaluation, phases II-V, May 1992

ADB344201 • Hydrology office report Kern river, California, January 1979

ADB344198 • Kern River – California aqueduct intertie, Kern county, California, environmental statement, February 1974

ADB344213 • Sacramento river Chico Landing to Red Bluff, California, bank protection project, final environmental statement, January 1975

ADB344265 • Cottonwood Creek, California, Information brochure on selected project plan, June 1982

ADB344261 • Sacramento river flood control project Colusa Trough Drainage Canal, California, office report, March 1993

ADB344343 • Detailed project report on Kern River-California aqueduct intertie, Kern County, California. February 1974

ADB344267 • Sacramento River Flood Control Project, California, Right Bank Yolo Bypass and Left Bank Cache Slough near Junction Yolo Bypass and Cache Slough, Levee construction, General Design, Supplement No. 1 to Design Memorandum #13, May 1986

ADB344246 • Redbank and Fancher Creeks, California, General Design Memorandum #1, February 1986

ADB344260 • Cache Creek Basin, California, Feasibility report and environmental statement for water resources development Lake and Yolo counties, California, February 1979

ADB344199 • Sacramento River Deep Water Ship channel, California, Feasibility report and environmental impact statement for navigation and related purposes, July 1980

ADB344263 • Sacramento River flood control project, California, Mid-Valley area, phase III, Design Memorandum, Vol. I or II, June 1986

ADB344262 • Marysville Lake, Yuba River, California, General Design Memorandum Phase I, Plan Formulation, Preliminary Report, Appendixes A-N, Design Memorandum #3, March 1977

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